FLORIDA NUMBER.
Meeting of SOUTHERN MEDICAL ASSOCIATION, at Jacksonville, Florida, November 12-14.

VOL. V **NOVEMBER, 1912** **No. 10**

Southern Medical Journal

Journal of The Southern Medical Association

INCORPORATING THE GULF STATES JOURNAL OF MEDICINE AND SURGERY AND MOBILE MEDICAL AND SURGICAL JOURNAL

Published Monthly at Nashville and Mobile. Price $2.00 per year, 25 cents per single number. Address Southern Medical Journal, Suite 905 Van Antwerp Building, Mobile, Ala., U. S. A. Entered as Second Class Matter, July 8, 1908, at the Post Office, Nashville, Tenn.

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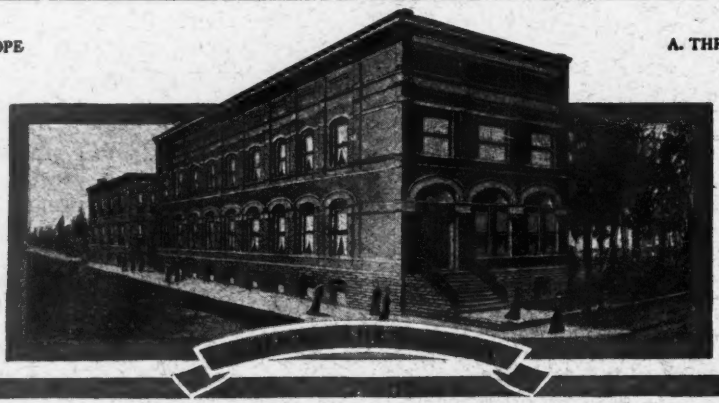

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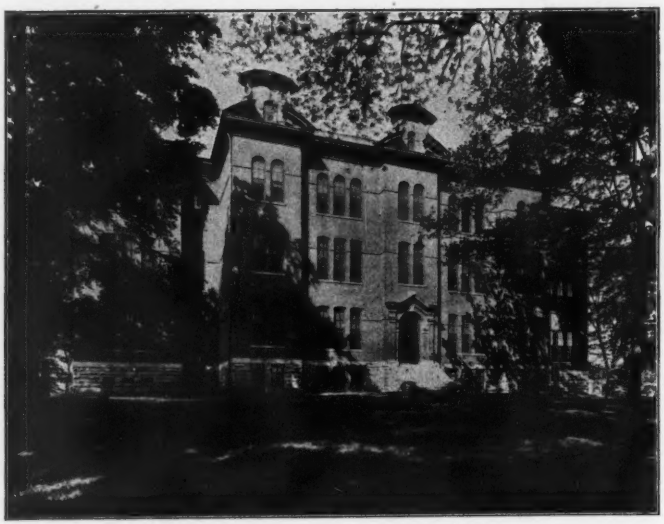

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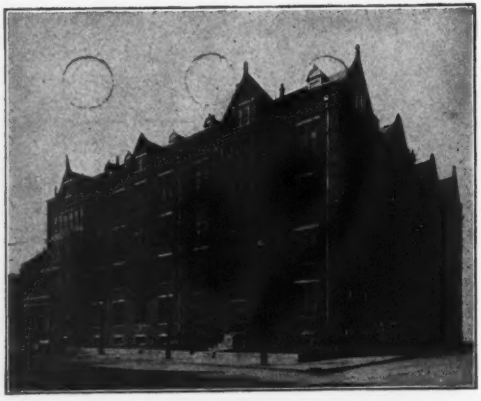

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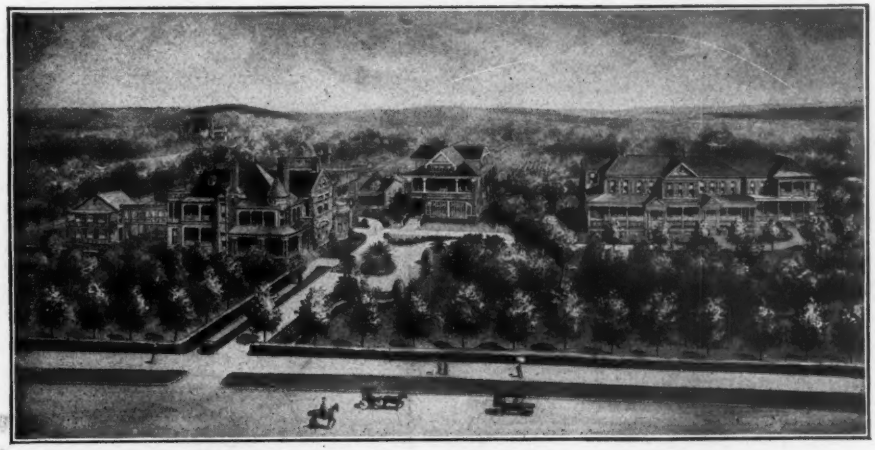

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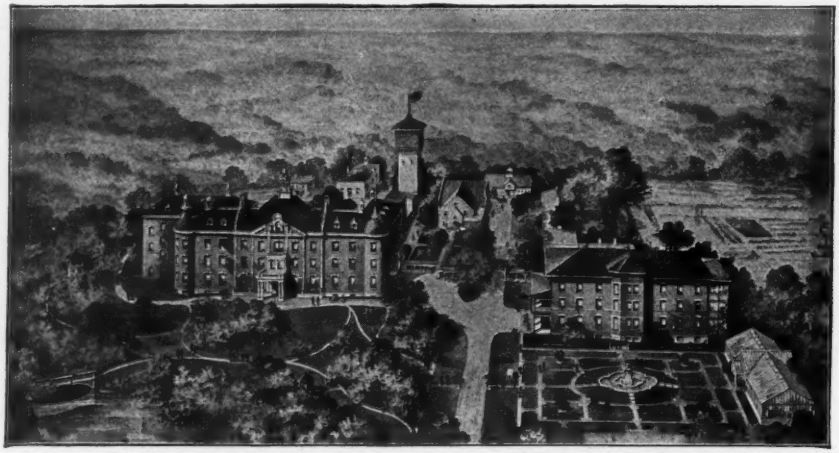

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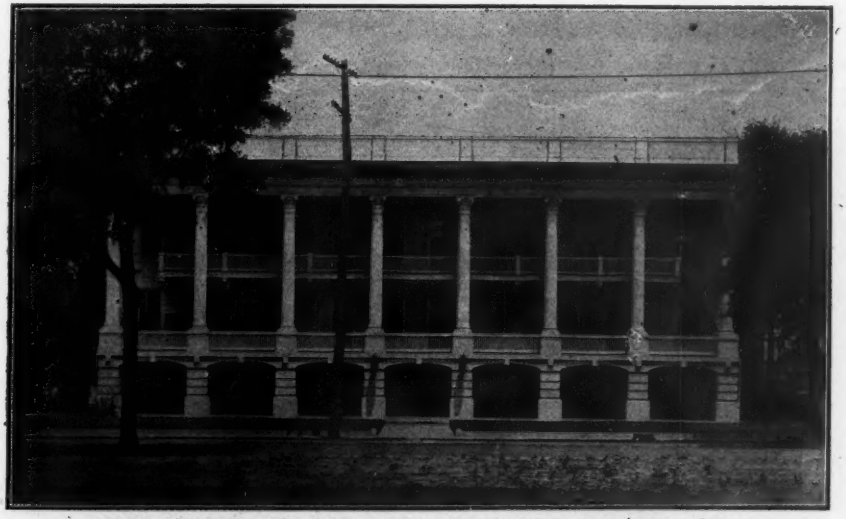

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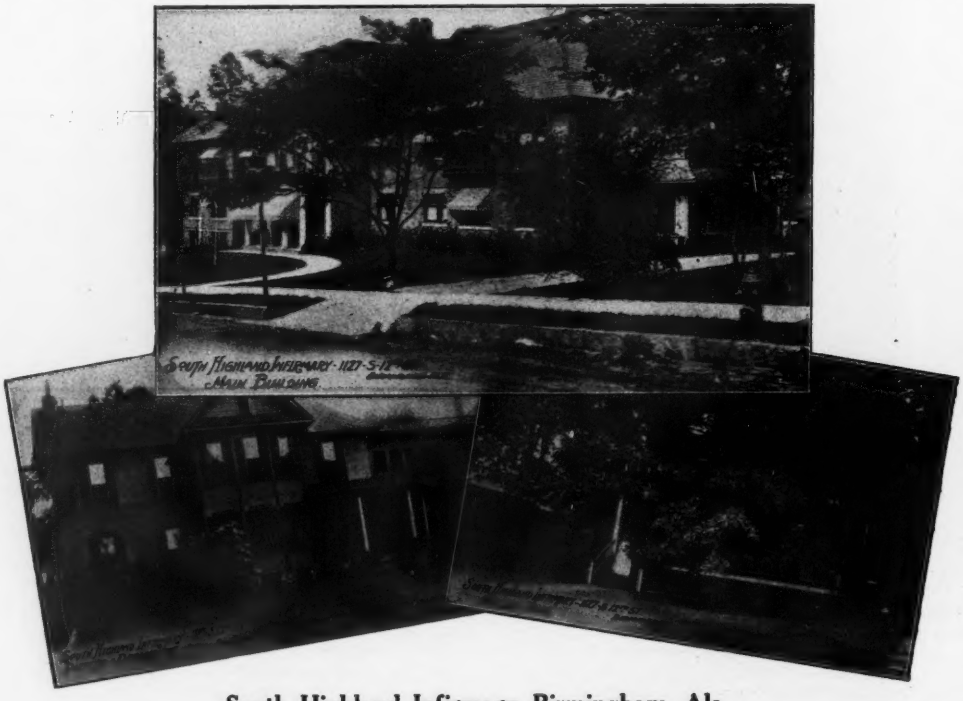

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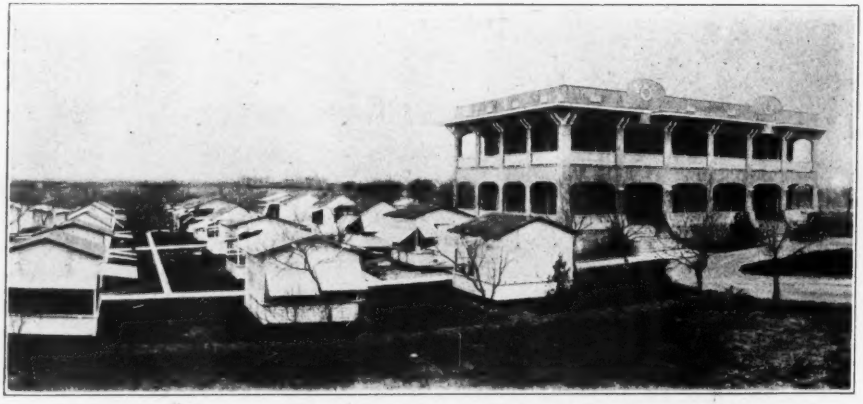

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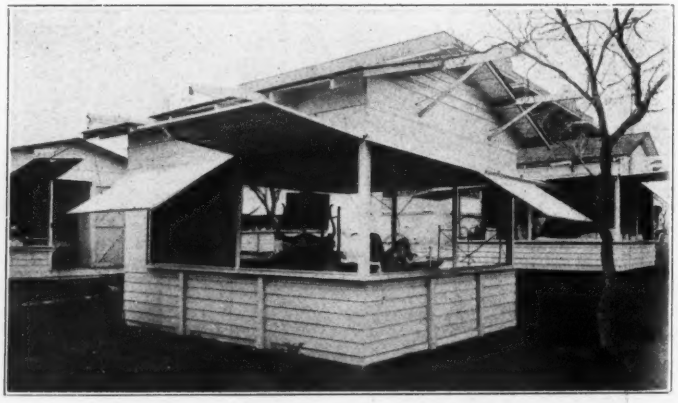

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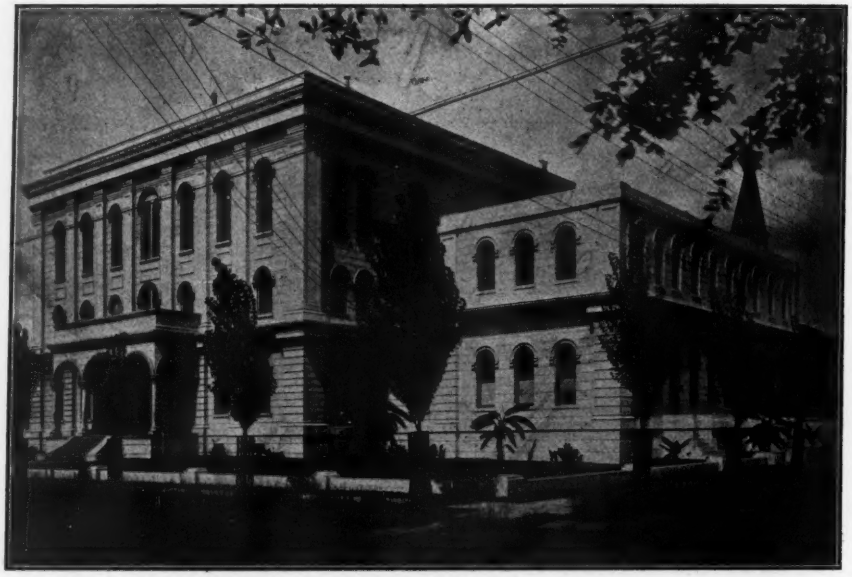

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PUBLISHED MONTHLY

Volume V. NASHVILLE, TENN., NOVEMBER, 1912 Number 10.

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS.*

FLORIDA STATE MEDICAL ASSOCIATION.

By A. H. FREEMAN, M.D.,
Starke, Fla.

I am profoundly grateful to the profession of Florida for the honor they so unworthily bestowed upon me at Tallahassee. They have put me under lasting obligations by this act of theirs to such an extent that I will have to live longer than the average space alloted to the general practitioner if I am ever to repay, even in part, this debt I owe them. I wish to thank you for this signal expression of your good will and esteem, and tell you that whenever I can contribute, even in my small way, to the advancement of Florida medincine or medical men you have but to point the way and command me.

I am pleased to notice the most excellent program which the scientific committee has prepared for us at this meeting. Thirty-three papers on important subjects give promise of a splendid meeting. In 1907, when we last met with you here in Tampa, our program carried only thirteen papers, yet we had a profitable and enjoyable meeting. If 230 per cent increase in the size of the scientific part of this session is evidence of what we may expect, this meeting will be great, but if the social features of this meeting, including the Spanish dinner, are to be as much greater than in 1907 how can we be equal to the occasion?

The watchword of the times is

PROGRESS

In two decades of practice I have seen veritable wonders performed. The mortality of diphtheria has been reduced from 40 per cent to 10 per cent, and we can prevent its development in exposed persons at will. The discovery and establishment of the mosquito theory has practically eradicated yellow fever from its favorite haunt and accustomed fastnesses in certain tropical cities, and put us on the way to the control of malaria. This knowledge applied in the construction of the Panama Canal has converted the zone from a pest hole, as it was under French rule, to a health resort with a majority of less than four per cent, and made possible the rapid completion of this gigantic undertaking. Comparable to the mosquito is the role played by the common house fly in the dissemination of disease—a discovery of recent years—as is also the fact of the transmission of Rocky Mountain fever by a tick, bubonic plague by fleas and rats, Malta fever by goat's milk.

The advancements in surgery are wonderful, but I do not wish to forestall the oration tonight, so must reluctantly pass that by.

The advancement in medical science during the past year alone was enough to attract the attention of many laymen of prominence.

MEDICAL PROGRESS, 1911.

The New York Times printed in its issues of December 31, 1911, and January 1, 1912, the replies it had received from many notable persons as to what they considered the five most important events of the year. President Taft noted as second his reply, "The

*Read before the Florida State Medical Association, at Tampa, May 8-12, 1912.

demonstration of the complete success of the prophylactic in typhoid fever, as shown by the fact that in the mobilization of 15,000 troops in Texas for three months there was only one case of typhoid fever." Count Bernstoff, the German Ambassador noted "Ehrlich's Salvarsan" and "Wasserman's progress in cancer research." President Thwing, of the Western Reserve College University emphasized the growth of medical education and research exhibited in the strenthening of medical schools and research institutes. President Wheeler, of the University of California, noted "Ehrlich's discovery in specific chemotherapy." Booker Washington noted "the discovery of Dr. Simon Flexner, of the serum for the cure of spinal meningitis." The Rev. Dr. Henry Van Dyke commented on "the advance made in restoration surgery." James Bryce, the British Ambassador, observed, "In modern times most of the events of the highest ultimate significance have been discoveries in the realms of nature, or inventions in the realms of industry; and their magnitude is seldom known at first." Little was said of the discovery that mosquitoes were the carriers of yellow fever and of the intermittent fevers; yet what immense consequences are seen to flow from the determination of the fact. In science when a stone is started down a hill, no one can tell how far it will go. Dr. Ehrlich considers the greatest achievement of the past decade the knowledge that has been gained incidental to the discovery of radium with regard to the transformation of matter. Prof. Osgood, of Columbia University, thinks the world's advance in curative and preventive medicine should have a place in the five great achievements of the year.

President Taft's reference was to a

MILITARY SUCCESS.

But not of arms or accoutrements or munitions of war. We, in common with other great nations, had suffered much from disease in war. The typhoid bacilli had often killed more men than bullets or bayonets. The peaceful streets of the encampment of Jacksonville had seen typhoid murder more men than fell before Santiago's sputtering Spaniards. In fact, 82.24 per cent of the mortality of that war was due to the typhoid bacillus.

Twenty-five years ago Frankel and Simonds had successfully inoculated rabbits against typhoid fever; fifteen years ago Pfeiffer and Kolle and Wright had applied it to man. During the South African war, Sir Almroth Wright inoculated 100,000 men, but poor records rendered the results of the procedure uncertain. The Germans next tried it out during the Hereros campaign in Southwestern Africa in the years from 1904 to 1907 with better results. For the past three years the inoculations have been given to volunteers in our army until July the first, 1911, when a general order was issued to vaccinate against typhoid fever all soldiers under 45 years of age who had not had a well authenticated case of typhoid fever. The result was that up to the early days of November over 60,000 persons had received the prophylactic procedures. These inoculations cover a period of three years and during that time only twelve cases of fever had been developed in these soldiers. None died. The only death was in a soldier who died from a case of walking typhoid fever five days after his first injection of vaccine. I think that we are all more or less familiar with the history of Uncle Sam's Maneuver Division at San Antonio, during the past summer where 12,800 soldiers were encamped from March to July at the same place and developed only one case of fever, and that in a hospital corps man who had not completed his inoculation—a mild case. During the same four months there was reported for the city of San Antonio, Texas, thirty-nine cases, with nineteen deaths. During this same time there were 3,000 men encamped at Galveston Texas, and in this camp no case of typhoid occurred, while in the city, using the same water and milk supply, 192 cases developed. There was only one difference, the soldiers had been inoculated against the fever. About 3,000 men were scattered along the Mexican border,

mostly in small camps, some of them in typhoid communities, and of this number only one contracted fever and he recovered.

This demonstration should satisfy the mind of the most skeptical that a great advance has been made in the methods of prevention of typhoid fever. And when the history of our times shall have been written, it will likely be recorded as one of the great achievements of the century that typhoid fever was practically abolished. "Peace hath her victories no less renowned than war," and we have made advances in the control of typhoid fever that may be termed

A CIVILIAN SUCCESS.

Yakima County, Washington, a thickly settled semi-rural community, only partly supplied with public water and sewerage systems, a large number of insanitary privies, often located near shallow wells; numerous stables and manure piles breeding innumerable flies; an extensive system of irrigating ditches, accelerating the wide distribution of the pollution; typhoid prevailing throughout the winter, but with a marked increase each summer, the annual typhoid death-rate being about 150 per hundred thousand.

Sentiments for improved sanitation was created by public addresses, an exhibit at the public health office, etc., enforcement, in a common sense sort of way, of ordinances requiring the connection of houses with the sewerage system, and, when this was impracticable, the construction of cheap, but sanitary privies; the protecting of the water and milk supplies; the proper disinfection of human excreta; the destruction of the breeding place of flies, etc., the result of which was a practical elimination of the disease, reducing the death-rate 90 per cent. Were this method of sanitation as successfully applied to the whole United States the increase of the disease would be reduced 400,000 and the death-rate by over 30,000 annually, and it is an entirely feasible plan.

With these accomplishments and many more in the realms of medicine, surgery and scientific sanitation we are rendering humanity a service greater, if less brilliant, than arms can accomplish and for which recognition is tardy.

I believe in the power of

THE PRESS.

We are too timid by far. When we could speak we do not for fear we be not modest. Much of the idea of medicine prevalent among the laity today is wrong. They have been taught by patent medicine almanacs, quacks and fakers of all kinds, whose teaching is such as to create a demand for the particular kind of medicine, appliance or remedy they have to sell, regardless of truth. Much of this stuff, sold before the advent of the pure food law, contained alcohol, cocaine, opium and other deleterious drugs, a sense of well being was produced in the user of it and the patient was deluded into the belief that he was being helped. Naturally he gave a testimonial of the good thing he had found, and bought more for himself. He believed in the medicine and believed in the statements of its literature; so the country is full of errors in medical knowledge. Our Florida Board of Health Publications and Health Notes, is giving good information to the people and some of the newspapers of the state are helping some in this way also. Most newspapers are sound in their editorial columns but sell freely their space to the most barefaced frauds, fakes and fakers that continually infest our fair Land of Flowers.

Science is doing much towards reducing the incidence of disease. Jenner and Lister of England, Koch of Germany, Pasteur of France, Simon Flexner of America, Ehrlich of Germany, and Frankel and Simonds and Wright developers of anti-typhoid vaccination, workers in preventive medicine; these and thousands of others are of our company and proud we are of it, too. Everywhere from the ends of the earth to the islands of the sea our workers in research laboratories are studying night and day to master the disease. Success is crowning our efforts to prevent disease and as soon as scientific medicine shows

the way, the State Health authorities adopt the methods of preventing disease to keep you from getting sick.

We believe in a greater nation, a greater state and better communities. Our greatest asset is a healthy citizenship. We can contribute to this desideratum by enlightening the public on the great wrong committed by charlatans and of the injury to health and even destruction to life caused by the use of their treatment; by teaching the public on these subjects and making known the injuries sustained by the unwary from the devices and pretenses of artful impostors.

I believe the time is now at hand for the establishment of a press bureau by which charlatanry can be offset and the public warned of danger, taught some general rules whereby they may judge of fraud themselves and in certain instances be informed of specific attempts which are being made to defraud them. I believe our duty to the public demands that we do something. We know of these fakes, fakers, and frauds and I believe we should tell what we know, and, so far as we are able, protect the public. As to the method of doing this—we will take that up in the discussion of the newly formed council on health and public education of the A. M. A.*

A SINGLE MEDICAL EXAMINING BOARD.

I think that Florida needs a single medical examing board. It is wrong to require one man to make a grade of 75 per cent, another 50 per cent, and another 25 per cent to be allowed to practice medicine. There is no more reason for having several boards in medicine than there is in law. Such a condition tends to lower the standard of medical education which every thinking person wants raised. In Florida, I am told, men have gone before one board and been refused license because they could not pass the examination, they have gone before another board and have been given license, sometimes with not even the formality of an examination, although the law requires the examination before any board. One board appointed by the governor and confirmed by the Senate, composed of nine or eleven members, selected for their ability, one retiring each year, would give a stable and permanent board having a term of office of sufficient length to enable them to be fearless and fair in the discharge of their duties.

These men of this board should be men among men, free from bias or prejudice, capable of dealing fairly with all. No man should pass the board through sympathy, or political pull or poverty. The stamp of approval of the board should show to the public a man worthy to be trusted with problems of life and death. The new doctor's first call may be an emergency one, where life lies in the balance. If he is qualified, well and good; and if not, life will be lost because people trusted in a man having the seal of approval of the State Board. A man has time to select his lawyer, but often he has to take the first doctor he can get. Therefore, we favor a high single standard examination giving a license based on knowledge, and it doesn't make so much difference where the knowledge comes from.

EUGENICS.

The world today asks these startling questions: "Do you know that our criminals cost $3,500 per day? Do you know that 250,000 persons—whom the law never touches—are engaged in the systematic pursuit of crime as a business? Do you know that the pickpockets of New York retain the permanent services of one of the best known lawyers in the United States to look after their interests? Do you know that during the past ten years the tramp burglars in this country have almost doubled in numbers? Do you know that this army of criminals is partly made up of mental defectives who might have been placed, as children, in institutions where they could have been trained to lead harmless and perhaps useful lives?"

(*Here follows a detailed history of the work of the A. M. A. regarding its organization of Council on Medical Education on Health and Public Instruction, omitted for lack o fspace.)

To these, A. B. Cook, in Southern Medicine, adds the following questions: "Do you know that not a single public institution exists in Tennessee or any other Southern State for the care and training of defective children? Do you know that if sterilization of the unfit had been adequately employed during the past generation no such history of crime and degeneracy as that above set forth would be true today? Do you know that if this remedy were applied with discriminating thoroughness now, the future welfare of society would be more effectively safeguarded than by any other means, and at the same time many an unpromising life would be rescued and uplifted? Do you not believe that the appeal of posterity for a purer and cleaner social structure should be heard and heeded? Do you realize that no more vital subject than this could engage the attention of this body?"

Closely allied to this subject in race improvement or eugenics, is the prevention of the marriage of all parties who cannot present a clean bill of health from a reputable physician. Leslie's Weekly editorially, in its issue of May 2, speaking of the decision of Dean Sumner of the Cathedral of St. Peter and Paul, Chicago, to adopt this reform for his clergy, thus discusses the subject:

"If only those were allowed to marry who are normal, physically and mentally, and who have neither an incurable nor a communicable disease, it would not be long before asylums, jails and all other institutions for the care of the criminal, the degenerate and defective could be abolished. The foundation of the state and society is the home, and the reasoning is logical that the state has the same right to bar disease that would enter and contaminate the home through marriage as it already exercises in barring disease that would enter the country through the ports.

"Dean Sumner, it should be noted, was the head of the famous Chicago Vice Commission, and the alarming revelations of its investigation doubtless convinced him that some such step as has been taken concerning marriage was necesary for the preservation of the race. The problem is one, of course, primarily for the state. Even if all churches adopted Dean Sumner's plan, those who were unfit to marry might still be wedded in all those states in which a civil ceremony is recognized. The marriage license itself should carry with it a certificate of physical and mental fitness, without necessitating inquiry on the part of the clergy." We could add nothing to this argument from a layman.

ORGANIZATION.

Medicine of today is the work of our predecessors for centuries. Not one man but thousands have contributed each his part to build the present colossal structure. To partake of the benefits of the past which the literature of medicine opens before us without ourselves contributing our part, is to be a parasite, like the Uncinaria Americana that depletes and debilitates its host without rendering a return for the feast it enjoys. Stop, doctor, stop being a parasite! Join your nearest medical society; if it is asleep, shake it and wake it up; if it is dead, inject some elixir of life into its veins and rejuvenate it. If it has never existed, attend its birth; do something to be worthy of your noble and studious predecessors who built what you enjoy.

DIET IN HEALTH AND DISEASE.

By Julius Friedenwald, M.D., and John Rurah, M.D. W. B. Saunders Company, Philadelphia and London. Third Edition, Thoroughly Revised and En-

This standard work again presents its renewed attractions to students of dietetics. Its specified diets for different conditions, such as "the insane," "glycosuria," "tetanus," and many others are very valuable and practical.

Army, prison, hospital, surgical and other dietaries other than those for disease are also very complete. Every one of its 735 pages contains matter of interest, even if merely the index. It is too well and favorably known to require further comment.

ADVANCES IN SURGERY.*

By RAYMOND C. TURCK, M.D.,
Jacksonville, Fla.

The history of the evolution of surgery is divided into three distinct epochs.

The first, which has been termed the primitive era, extended over the centuries from the beginning of man's first crude efforts to the discovery of anaesthesia.

Surgical progress in this age was so slow that its developmental periods in many instances covered hundreds of years. As in many other branches of human endeavor, there was in the primitive era a spirit of complacency and a sense of satisfaction with things as they were. The spirit of the time is most strikingly illustrated by Ambroise Pare, who states in his volume on surgery, published in 1579:

"For God is my witness and all men know that I have labored fifty years with all care and pains in the illustration and amplification of surgery; and that I have so certainly touched the work whereat I aimed that antiquity may seem to have nothing wherein it may exceed us beyond the glory of invention nor posterity anything left but a certain small hope to add some things."

The sluggishness of surgical progress during this period is evidenced by the fact that this work of Pare's was for over one hundred years a standard and that it was not until seventy years after its first publication in Paris that it was translated and used in England.

It is true that in the later part of this period an adventurous operator would occasionally invade a body cavity or attack a large vessel, but such work was limited to a very few men. Major operations as we now know them were more or less accidental; the greater portion of the surgery of the time was limited to what we now consider elementary work.

We cannot but feel, however, a deep reverence and a profound respect for the surgeons of the primitive age. While their greatest works may seem to us in the light of the present, inconsequential, inadequate, crude and oftentimes radically wrong in theory and practice, yet in view of the conditions under which they worked, the obstacles, both mental and material, which hindered them, the utter lack of operative facilities and, above all, the ever-present terror of sepsis, it seems that, comparatively, the accomplishments of the elder surgeons were in many instances as brilliant as the achievements of the surgeon of today who works with every conceivable aid at his command.

Such surgeons as Pare, John Hunter and Astley Cooper still have something to teach us. Before anaesthesia every operation was an anatomic dissection. So far as it went, the actual operative technic of the so-called primitive surgeon was perfect. The minute nicety and the painstaking care of his work was a necessity. Without anaesthesia, without antisepsis and without asepsis an operation upon a struggling patient involved a precision of technical skill and an exactitude of anatomical knowledge not always seen even in the greatest of our most modern clinics.

If we consider for a moment the surgical technic of the pre-antiseptic era, we may readily understand why the surgeon of that time looked upon the accidental or deliberate opening of the peritoneum with dread and horror; why plastic and reparative work was so uniformly unsuccessful; why the surgery of the brain, the spinal cord, the joints, the lungs, the kidneys and indeed all viscera was practically a closed book.

"Let us suppose an amputation above the elbow, and the operator the best surgeon in the Civil War. The arm was not specially prepared except that it would be cleaned of its

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

coarse dirt arising from the accident, but that would be all. The instruments were taken out of an ordinary case and placed on a table, and during the operation were frequently placed upon the patient's clothing. If the instruments or sponges fell upon the floor, they would be picked up, dipped in water, and then used with innocent equanimity. The sponges, washed and dried from the last operation, were simply thrown into a basin of ordinary water. The hands of the surgeon were as clean as a gentleman would always keep his hands. The amputation having been done, the arteries were tied with silk threads, one end of each being left long. These ends were left hanging out of the wound at any convenient place. The flaps were sewed with wire or silk. In threading the needle, the thread would often be shaped into a point by the lips or would be rolled between septic fingers. At the end of twenty-four or forty-eight hours a "surgical" fever would set in. After a week or ten days the surgeon would pull gently on each silk ligature to see if it had rotted loose from the blood vessel and could be removed. Very rarely indeed would a wound heal without suppuration. If it did, it always excited remark and would be accounted a surgical triumph. Grave complications, such as abscess, erysipelas and gangrene were fertile sources of danger and very often of death; while secondary hemorrhage—that is hemorrhage following premature rotting of the ligatures on the blood vessels—was always a possible and frequently an actual and formidable danger to life. A serious operation from which the patient recovered in less than a month was a remarkable case." (Keen.)

Such technic was not the exception but the rule in all surgical procedures. One glance at the technic of the sixties would cause our modern operating room nurses to die of horror on the spot.

The discovery of anaesthesia and its first use by Dr. Crawford Long, of Georgia, in 1842, and the subsequent public exploitation of the use of sulphuric ether by Morton and Warren at the Massachusetts General Hospital, in October, 1846, marks the commencement of the second or formative period in surgical evolution.

The formative period covered forty years and was characterized by:

"Two discoveries which revolutionized the practice of surgery—anaesthesia and antisepsis. The first abolished pain as a disturbing element during operative procedures and the second prevented suppuration during the healing process; together they effected a painless operation and healing of the wound by first intention—results hitherto sought in vain by the elder surgeons. These discoveries swept away the long established metes and bounds of the field of operative surgery and made it as limitless as are the diseases and injuries of the human body and man's desire to relieve them." (Stephen Smith.)

Modern surgery had its true beginning in 1865,

"When Joseph Lister published the result of his experiments and established the 'Germ Theory of Disease.' In 1858 Pasteur announced to the world that fermentation and putrefaction are due to the action of living micro-organisms and are therefore living processes. Up to this time inflammation and suppuration had been considered necessary accompaniments of a wound. Lister reasoned that if putrefaction and fermentation were due to the presence of germs and could be prevented by their exclusion, suppuration must be due to their presence and could be prevented by their exclusion. He demonstrated by experiment that a wound made in clean skin by clean hands and instruments and protected by clean dressings, would heal by first intention. The application of the germ theory has revolutionized the practice of medicine and surgery and has added thousands of years to human life. It has made possible the prevention and suppression of many epidemics

and has changed hospitals from pest houses to houses of refuge." (Moore.)

The deliberate invasion of the abdominal cavity began during the formative period with operations for drainage of abscess of the vermiform appendix. This was first done by Hancock, of London, in 1848, and a few years later by Willard Parker, of New York. Parker's work was copied and exemplified by various operators after the discovery and application of antiseptics with a reduction in the operative mortality of appendicial abscess from 40 per cent in 1848 to 15 per cent in 1882. The removal of the appendix itself was first planned and executed by Morton, of Philadelphia, in 1887. In this period, men in various parts of the world began conducting experimental surgery upon the lower animals and applying their findings to the human. Simon's pioneer work upon the kidneys, Gross' work upon the repair of intestinal wounds, Ferrier's classic studies of the brains of monkeys and dogs and many others paved the way for our modern attainments. Even a glance at surgical development should convince any semi-sane antivivisectionist that the surgery of today rests upon a foundation of anatomic and pathologic knowledge, anaesthesia, antisepsis and animal experimentation. The lives of a few animals have helped to relieve immeasurable human suffering and have added countless years to human life in the working out not only of the beginnings, but the refinements of surgical technic alone.

The formative period ends and the modern or practical period in surgical history begins in the late eighties with the epoch-making memoirs of two Americans, Fitz, of Boston, and McBurney, of New York. Fitz's paper on "Perforative Inflammation of the Vermiform Appendix" settled many perplexing questions as to the propriety and safety of the deliberate invasion of the abdomen.

"The time was ripe, the man appeared, and surgeons needing but the assurance of safety gratefully accepted this transfer from the domain of internal medicine and began with alacrity to develop the operative procedure." (Kelly.)

McBurney's critical review and his conclusions mark the commencement of modern surgical practice. Howard Kelly has said of Willard Parker's work and its influence that "from the date of his teaching operative treatment of appendicitis began an evolution which ended in the revolution of surgery."

From that time surgery has progressed with leaps and bounds. Greater advances have been made in the past twenty-five years than in all the centuries from Galen to Parker. When we speak of recent "Advances in Surgery" we may cover almost the entire realm of surgical procedure and we are yet advancing so rapidly that surgical progress may be noted almost from day to day.

It is therefore within my province to touch but lightly upon a very limited part of our most modern surgical knowledge and practice.

SURGERY OF THE CHEST.

Intra-thoracic surgery has been until recently almost an untouched field, because of the great danger from collapse of the lung as soon as the pleural cavity is opened.

Heretofore, sucessful operations within the thorax have been practically confined to inflammatory and suppurative diseases of the pleura, or, rarely, abscess or gangrene of the lung itself where there is usually a wall of limiting adhesions which prevents a complete pneumo-thorax.

A complete collapse of one lung, while not necessarily fatal, always produces more or less circulatory and respiratory embarrassment. When both pleural cavities are freely opened, the result is almost always fatal.

To obviate these grave complications, a vast amount of experimental work has been done upon animals. Two lines of research have been followed; the first, that of negative pressure, or reduction of the atmospheric pressure on the exterior of the lung at the moment of oper-

ation, and, second, that of positive pressure, or increase of pressure within the lung itself.

Work upon negative pressure has resulted in the invention of many ingenious chambers and cabinets from which air may be exhausted to any desired pressure.

Most brilliant intra-thoracic work has been done under negative pressure, yet an efficient apparatus is so unwieldy and so costly, so difficult to operate satisfactorily and the surgeon and assistants are so encumbered and handicapped by having to work in a reduced air pressure that this procedure probably will never become universally valuable.

Of many more or less satisfactory devices, the intra-tracheal positive pressure anaesthesia of Elsberg is productive of most brilliant results and will revolutionize not only the surgery of the chest, but of the heart as well. In Elsberg's method the patient is first etherized in the usual manner, after which the anaesthetic is continued by forcing warm air and ether vapor through a tube which has been passed through the larynx into the trachea. The differential pressure and the amount and proportion of the anaesthetic vapor are under perfect control. Respiratory movements are practically suspended during the administration, and this is an important factor in delicate intra-thoracic operations. With the Elsberg method operations are being done upon the pleura, the bronchi, the lung, upon the thoracic portion of the esophagus and other structures of the mediastinal spaces.

Operations for the removal of diseased areas in pulmonary tuberculosis are receiving serious consideration, and, indeed, such operations are already being reported.

WOUNDS OF THE HEART.

In the non-operative or expectant treatment of wounds of the heart but 15 per cent of cases recover and it is probable that among these neither auricles nor ventricles were seriously injured. The operative treatment of heart wounds shows seventy-one recoveries and 106 deaths out of a total of 177 cases reported. Therefore there is a 25 per cent greater chance for recovery by an open operation and suture than by the policy of non-interference. Three-fourths of all heart wounds are associated with wounds of the pleura, hence an additional opening in the pleura is not added danger. In these cases positive pressure anaesthesia is destined to play an important role. Danger from opening the pleura sufficiently for quick and thorough operative work may be disregarded. The long lateral intercostal incision and separation of the ribs with the Mikulicz rib spreader affords a splendid operative field and has the added advantage that an air-tight wound may be secured by peri-costal suture.

Positive pressure anaesthesia is valuable in these cases in that it controls respiration, regulates to a certain extent the heart beat, and is particularly valuable in that it re-inflates the lungs after air-tight closure of the pleural cavity.

SURGERY OF BLOOD VESSELS.

In the development of the surgery of blood vessels, the work of Carrel stands out as one of the marvels of the age.

With Carrel's method of end to end union, large and small vessels can be re-united after division, pieces of arteries and veins can be transplanted into defects in other arteries and veins to take on perfect function, whole organs, such as the kidney and the thyroid, can be transplanted from one animal to another, and, indeed, whole limbs can be transferred and grafted. Carrel's work has added a new chapter to the surgery of aneurism and blood vessel injury and seems destined to further revolutionize surgery in that eventually we may remove diseased organs and replace them with healthy ones, and that we may at no far distant time replace diseased or missing limbs and restore complete function.

"The utilization of apparently dead or at least of only potentially living tissue in the various methods of grafting or transplantation is today a part of the surgeon's work. The methods are themselves a transplantation of

experiences gained by work in the vegetable kingdom. What wonder that the marvels revealed in the one department should have incited work along parallel lines in the other? That fruit and flowers of one kind may be made to grow on a tree of a very different kind excites but a small part of the astonishment it deserves, mainly because it is now a common occurrence, though properly regarded it might seem a miracle.

"Without violating the proper scientific use of the imagination, one may fancy something like the following: Let a healthy young criminal meet accidental or instantaneous death. It would be possible to use no inconsiderable portion of the body for grafting or other justifiable surgical procedures. The arteries and nerves could be used, both in the fresh state and the former even after preservation, for suitable transplantation or repair work on the vascular and nervous systems of a considerable number of other people. So also could the thyroid, the cornea and especially the bones. All the teeth, if healthy, could be reimplanted. With the bones, ribs especially, plastic operations—particularly on the noses—of fifty people could be made. And then the exterior of the body could be made to furnish an almost inexhaustible supply of epidermis for Thiersch grafts, which latter material need not be used in the fresh state, but could be preserved and made available some days or even weeks later. Portions of the ureters or some other portion of the remains might be used for some unusual purpose. Then what extractives might be prepared from other parts of the body, pituitary, adrenals, bone marrow, etc.? The tendons might also be prepared for sutures.

"But the possible limit is not yet reached, since with each kidney might be carried out experiments like those feats of physiologic jugglery such as Carrel has shown us, by implanting one, say in the neck, connecting up the renal with the carotid artery and the renal vein with the jugular, while some receptacle would have to be provided as a terminal for the ureter.

"This is, after all, not a fantastic dream, nor such an extreme picture as would at first appear, since every organ or tissue above mentioned—and more—has been used as indicated and with success." (Park.)

CANCER OF THE BREAST.

The complete Halsted operation offers the only hope for cure of cancer of the breast and there are but 20 per cent of cures from operations undertaken after the axillary glands are involved. On the other hand, there are 70 per cent to 80 per cent of cures from operation in the early stages of the disease.

With this difference of mortality in view, is further evidence necessary to impress the fact that physicians should not delay operation upon their cases of breast tumor until they have confirmed a suspicious diagnosis by the presence of enlarged axillary glands?

"The laity should know that every tumor of the breast is a pathologic process, that absolutely nothing can be gained by expectant treatment and that in almost every instance delay lessens the chance of cure." (Beckman.)

SURGERY IN BRIGHT'S DISEASE.

There is a field of surgery in Bright's disease which has been slow in developing, though most remarkable results have been and are being obtained from operative work.

Edebohls and Ferguson, working independently, developed a safe and comparatively simple and easy operative measure, that of the removal of the fibrous capsule of the kidney in the chronic type of nephritis, for the relief of pressure and to provide for the expansion of chronically inflamed and compressed kidney tissue.

Many apparently cured cases of undoubted Bright's have been followed for periods of from five to thirteen years with no recurrence of the disease and with no evidence of having had such disease. Aside from the practical value of this pioneer work which has been left

to future workers to develop to its fullest degree of usefulness, both Edebohls and Ferguson have left to the younger generation a priceless heritage in their example of fearlessness, unswerving determination, deliberate, careful and scientific work in the face of adverse criticism and even ridicule.

BONES AND JOINTS.

With strict asepsis we now approach the bones and joints with impunity, but the operative technic must be perfect and to this end the work must be done instrumentally, so far as possible, even the gloved fingers entering the wound only when absolutely necessary and then protected by sterile gauze.

Progress in the surgery of joints has made wonderful strides. Murphy's operations for providing motion in joints which have been apparently hopelessly stiffened by disease, injury or necessary operation, has opened a marvelous field for surgical usefulness. Bones are being transplanted to fill the gaps and defects in other bones; hopeless deformities and ununited fractures are being straightened and secured.

Excellent results are being obtained by the open treatment of new fractures. This method has been particularly satisfactory in fractures of the long bones and is peculiarly applicable to old fractures, deformities and to un-united fractures which have heretofore been considered hopeless. Many enthusiastic advocates are asserting that open operation should be done in all cases. There seems no doubt but that open operation and wiring or plating should be done in every case of fracture of the femur above the middle third. In such cases it is almost impossible to tell when the apposition is accurate and it is utterly impossible to tell whether or not there is a bundle of union-preventing muscle or fascia between the bone ends.

"As each fracture patient presents himself, the question as to whether his interests are best guarded by conservative treatment or operation must be answered by the individual surgeon on the basis of his clinical experience and knowledge of recorded cases. In certain instances, as, for instance, compound fracture, where reduction and retention are both difficult, fractures with interposition of soft parts, fracture with such displacement as to make union uncertain, deformity assured and function imperfect, the need for operation is obvious. In other instances where satisfactory reduction is obtainable by manipulation with or without anaesthesia, and this reduction can be maintained by splints and bandages, operation will be suggested only by a limited number of enthusiasts who regard a cure without cutting as a reproach to the surgical profession." (Edward Martin.)

GOITER.

The simple types of goiter appear at the present time to be considered surgical only for cosmetic reasons, and when there is need for relief from annoying or dangerous pressure.

Hyperthyroidism, however, commonly known as exopthalmic goiter or Graves' disease, is a true systemic "toxemia, the result of the absorption of the products of the hyperactive thyroid," (McCarthy) is a cause of death in 15 per cent of cases and often incapacitates the individual for long periods of time. It has been abundantly demonstrated that some form of surgical intervention for reduction of gland secretion offers the only cure for this condition, though occasionally cases do recover under medical treatment.

The present operative mortality for all cases, young and old, mild and severe, is less than 4 per cent, with 70 per cent of positive cures and the balance more or less improved. The best results and the lowest operative mortality are obtained when cases are admitted to operation in the early stages. It is unfortunate that the condition should have been designated as exopthalmic goiter, since the exopthalmus or protrusion of the eyes is often one of the last symptoms to appear and patients are often treated for months for stomach and bowel dis-

turbance, or for heart trouble because of a rapid pulse. Since the disease is surgical and since conservative and essentially safe measures, such as tieing off of one or both superior thyroid arteries or the removal of one lobe of the gland may be sufficient to arrest the disease in its early stages, the importance of early diagnosis and early surgical intervention cannot be too strongly emphasized.

"The present low mortality has resulted less from an increase of operative skill than from a selection of time for operation with reference to the activity or severity of the condition." (Mayo.)

HERNIA.

No man subject to the discomfort, disadvantages and inconveniences of truss wearing for rupture or hernia but will concede the manifold advantages of a sound, strong abdominal wall and yet unaccountably thousands of people seem content to go handicapped through life when surgical relief is almost an absolute certainty.

Nearly one-third of all hernias begin in childhood. In addition to the annoyance and inconvenience of truss-wearing by children, the constant source of anxiety and watchful care on the part of the mother, the oftentimes housing of the children when he should be playing outdoors for fear a truss will slip or the hernia come down, there is to be added the actual danger of intestinal strangulation and the fact that the longer a truss is worn, the more difficult is an operative procedure and because of actual atrophy of the muscle from truss pressure the greater the percentage of relapses after repair.

Any hernia in a child which persists in spite of proper mechanical support after the age of four is incurable by mechanical means and should be immediately repaired. The earlier the repair the greater chance for cure and the less the danger.

The operative mortality for hernial operations in children is practically nothing—less than one-quarter of 1 per cent—and the percentage of operative failures in all types of cases in children is less than one-half of 1 per cent.

In all classes of cases the operative failures in adults is from combined statistics approximately 3½ per cent, with an operative mortality of less than 1 per cent.

ABDOMEN.

Chronic indigestion and dyspepsia are now known not to be true functional diseases, but in a great majority of cases are symptoms only. When there is repeated dyspepsia, so-called, with pain, distension, gas formation, varied by more or less acute attacks of indigestion, there is something wrong with the abdominal mechanism and in ninety in every one hundred cases there is some irritated condition of the appendix or gall blader, or ulcer in the stomach, or duodenum, which calls for surgical relief before an acute suppurative condition, a perforation or peritonitis renders even surgical relief desperate, if not hopeless.

ULCER AND CANCER OF THE STOMACH.

Deaver classes gastric ulcer as an alarmingly serious disease. It is much more prevalent than is generally believed and has a direct mortality of at least 20 per cent, 5 per cent from hemorrhage which may come on at any time and 15 per cent from perforation. This mortality is for ulcer itself, but we must also consider the possibility of cancerous development. The accumulated experience of the world's greatest clinics emphasizes the fact that gastric ulcer is the pre-cancerous lesion in at least 75 per cent of all cases of cancer of the stomach; further, that operation for gastric cancer does not prolong life more than three years in the most favorable cases, and, further:

"Eighty per cent of all cases of cancer of the stomach give a history of definite gastric symptoms of over one year, many of from five to twenty years, the large percentage of them two and three years." (Bloodgood.)

Long enough for a careful diagnostician to make his diagnosis and give his patient a

chance for life by providing early surgical intervention.

"Physicians have learned to make their patients so comfortable that they are apt when they get an early cancerian ulcer, to carry it along from the operable period to the inoperable one in comparative comfort. I am certain that less harm would be done by the surgeon who, with good technic, may open the abdomen a little too freqeuntly, than by the physician who delays operative intervention in ulcer and cancer." (Bloodgood.)

"Where the symptoms of open ulcer are not relieved after energetic medical treatment lasting for several weeks or where the disease recurs more than once after being temporarily checked, in such patient some more radical treatment is required than medicine today affords." (Deaver.)

"The ability of a surgeon to treat malignant diseases satisfactorily depends more upon the early diagnosis of the trouble than upon any other factor." (Judd.)

APPENDICITIS.

Medically treated, 40 per cent of all cases of appendicitis will be entirely cured. Forty per cent of all cases will clear up temporarily but will recur, and 20 per cent of all cases will go on to rupture, peritonitis and death.

An appendix once inflamed may be compared to a dynamite cartridge which may or may not explode. Appendicitis is one of the most treacherous of diseases and one whose progress and ending no man can possibly predict.

The operative mortality in clean cases of appendicitis is less than 1 per cent. It is not over 2 per cent in early operation in all classes of cases. Hence, since 20 per cent of all medically treated cases die of the disease sooner or later, there is a balance of 18 per cent in favor of surgical treatment. The greatest safety lies in the removal of the appendix as soon as a diagnosis of appendicitis is made.

OCHSNER'S TREATMENT FOR APPENDICITIS.

Ochsner believes in operating upon every case of appendicitis at one time or another. In a certain class of cases he believes in carrying them through until there is a localization of inflammation and until the patient is in the most favorable condition. This treatment has been seized upon as medical cure for appendicitis and regarding this, I quote Stuart McGuire, of Richmond, who says that:

"Ochsner's teaching has caused the death of more patients with appendicitis than his personal ability as operator has enabled him to save, and this is not because his teaching is wrong, but because it has been misunderstood and his treatment misapplied. It would be better for the profession and for the public if his teaching had never been disseminated. It has been the excuse for procrastination which has filled many an untimely grave."

CONCLUSION.

In general there is a growing tendency to educate the public to the necessity of surgical intervention in the early stages of many diseases, not to consider surgery a last and often hopeless resort, but to have recourse to surgery at a time when it offers the greatest hope for the saving of life or the restoration of health.

"Studies of immediate and late results demonstrate that operative mortality is greater in the late period, the post-operative complications and period of disability greater than when the operation is performed in the early stage." (Bloodgood.)

Greater stress should be laid upon diagnosis, especially early diagnosis and above all early diagnosis in malignant conditions. The physician should cast out of his mind the old text-book pictures of disease in its advanced, so-called typical stage, and should get the early picture. With a choice of a wealth of modern text-books, with a selection of good medical journals, with opportunities for post-graduate study and attendance upon the medical and surgical clinics, and, above all, the opportunity to utilize the excellent laboratory and diagnostic facilities afforded by our efficient State

Board of Health, any man may know the early picture of disease and may make an early and correct diagnosis in a great majority of cases. The profession should be brought to a full realization and the laity should be taught that the medical man who studies his case, who makes a clean-cut diagnosis, who determines the necessity for an operation and assumes the responsibility of advising operative measures is deserving of and should be given adequate compensation.

No less an authority than one of the world's greatest surgeons, the President of the American Medical Association, Dr. John B. Murphy, of Chicago, said before the Clinical Congress of Surgeons in Philadelphia that the medical man who brings a case of acute or internal disease to the surgeons' operating table, bearing the responsibility of diagnosis, decision between operative or non-operative treatment and in the final analysis the ultimate burden of blame for a possible operative failure should be paid for his share of the work as much as the surgeon receives for his. But the charge should be made openly and honestly.

Surgical technic has developed rapidly and steadily. It has outrun diagnosis, it has outdistanced post-operative treatment; it has

"Reached such a state of perfection that we are in danger of thinking, as did Ambroise Pare, that there are but few things that posterity can add. This is a dangerous attitude, because a belief that we have arrived at the acme of human perfection will surely prevent progress. The great benefits vouchsafed mankind through the gospel of cleanliness are not without alloy. The fact that such wonderful things can be done through a clean wound has led to the doing of many unwarrantable things. There is too much of a tendency among young members of the profession to believe that technic is all there is of surgery, and that as soon as a man can secure healing by first intention, he is a surgeon. There is decidedly too great a tendency to make a diagnosis with the knife. Operations are a very necessary part of surgery, but it is more important to decide when and when not to operate. It sometimes requires more courage to decide not to operate than to operate. The surgeon should always be bold but conservative, for conservatism is the greatest attribute of a good surgeon. The conservative surgeon will operate only when he believes that an operation is the treatment most likely to save the life of his patient or restore him to health." (Moore.)

Conservatism in its truest sense means the restoration or preservation of health and functions, or the saving of life. It does not mean the refusal to operate when an operation is indicated, nor does it mean work but partly done, nor the leaving in place of non-functionating or slightly diseased organs or parts of organs solely for the sake of leaving them.

The surgeon's knife in its most radical work is often the greatest of conservative agents.

TYPHOID FEVER IN TAMPA, FLORIDA.*

STUDIES ON AN OUTBREAK OF TYPHOID FEVER AND AMOEBIC DYSENTERY.

By HIRAM BYRD, M.D., Asst. State Health Officer,
and
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During the early spring months of 1911, just before and just after the closing of the Belleview Hotel at Bellail, some ten of the guests of that hotel developed typhoid fever, among them Dr. Murphy of Chicago. Whereupon the management engaged the services of Drs. Jordan and Irons, of Chicago, to make an investigation of the trouble.

*Read before the Florida Medical Association, at Tampa, Fla., May 10, 1912.

Dr. Irons came down to Florida, studied the situation two or three days, returned and reported that the source of the infection was in the cream furnished the Belleview Hotel by the Tampa Dairy Company. Among other things he reported that during the months of March and April there were, conservatively stated, fifty to two hundred cases of typhoid fever in Tampa.

His report gave rise to a great deal of talk, not only in Tampa, but throughout the state, and even beyond its borders. The rumors became exaggerations until credulity would stand for no more. At this juncture I was detailed to Tampa to study the typhoid situation and report* to the State Health Officer.

It is not my purpose to review that report in this connection further than to say that after a careful study of the situation, covering some two weeks spent on the grounds, and collecting all the available evidence, I was forced to the conclusion that the number of cases had been exaggerated; that instead of fifty to two hundred for two months, I was only able to get record of 121 for the first six months of the year. I was, furthermore, forced to the conclusion that the alleged carrier case of typhoid had played no part in the prevalence of the disease, and that if milk had been a factor at all, it had been in a secondary manner; that the typhoid fever prevailing there at the time was of fly origin, and I was able to predict that it would continue till the open closet problem was solved, running alternately high in the summer when the flies prevail and low in the winter when flies are fewest.

This prediction was fulfilled. The number of cases based upon examinations made by the laboratory reached forty-one, when it began to decline, and by November reached low mark of two. Then suddenly and contrary to all expectations it began to spring up. Six examinations were made in December, seventeen in January, thirty in February. Whereupon I was detailed to Tampa again to ferret out the cause of this sudden rise.

Preliminary note:

Politically, Tampa and West Tampa are two separate municipalities, but for purposes of this discussion, the aggregate of people, composing both, together with those around the periphery, will be considered in three groups, as follows: That portion east of the Hillsboro River, aggregating some thirty thousand people, will be known in this connection as East Tampa; that portion west of the Hillsboro River and north of the Atlantic Coast Line Railway will be known as West Tampa, and the portion south of the A. C. Y. Ry., will be known as Hyde Park.

The East Tampa group consists of almost equal numbers of Latins and Americans, and aggregates some 36,000 people. The West Tampa group is almost pure Latins, some 12,000; while the Hyde Park group is almost pure American, about 6,000 in numbers.

Hyde Park is the best residence section of the city. It is well paved, screened and sewered. A pretty thorough canvass of the place only revealed three surface closets. At the foot of Platt Street is a sewer emptying into the beach, the exit of which is above water even at high tide, and further down the beach is another similiar exit. But these are well flooded and it is doubtful if any harm would come from them.

East Tampa is not so well sewered as Hyde Park, although a large portion of it has sewer connections. Still, in the sewered territory, there are approximately a thousand surface closets. There are two systems of caring for the surface closets. Where they are so located as to be of easy access to the wagons, they are left dry, and are cleaned by the city. But a large number of surface closets are not accessible to the wagons and these have buckets. Altogether there are some six or seven thousand buckets in use. Of the 36,000 people it is estimated that some fifty per cent use surface closets.

In West Tampa the sewerage system is very

*See Annual Report of State Board of Health for 1911.

incomplete. While the municipality has installed sewers along certain streets a very large portion of the city is still unsewered, and a large portion of that which is sewered is apparently unconnected. And even where houses are connected, in many places they are in close juxtaposition to houses that have surface closets.

CASES.

To work up the epidemiology of an outbreak of typhoid fever like the one in Tampa is not always easy. Where the records of cases and of deaths are incomplete the task becomes doubly difficult. And this was the case in Tampa. Not more than twenty per cent of the known cases were reported to the City Board of Health, and of those reported the information given was too fragmentary to be of any value. The deaths are reported with more accuracy. In estimating the number of cases of typhoid fever, it is sometimes customary to multiply the number of deaths by ten. There were twenty-nine deaths reported to the City Board of Health in Tampa in 1911. This multiplied by ten would give 290 cases; and this is exclusive of West Tampa, which is a separate municipality.

The State Board of Health laboratory located in Tampa is called upon to make blood tests in suspected typhoid fever. In this way 156 diagnoses were made in the year, exclusive of West Tampa. Such records are incomplete, for in many instances specimens are never submitted for examination. But incomplete as they are, they are by far the best case records we have.

A feature of these laboratory reports that must be taken into account is the fact that they are more accurate for the American than for the Latin population. Social status probably plays a part. Among the more prosperous a physician is called for slighter indisposition than among the poorer, so that fewer cases escape detection. Again, the physicians who practice among the better-to-do are usually those that give close attention to details and fewer cases are diagnosed without laboratory confirmation. The population of Hyde Park, including Suburb Beautiful, is almost exclusively American, and of the more exclusive Americans. The population of West Tampa is almost pure Latin, while East Tampa has a mixed population, about half and half American and half Latin. Consequently, the laboratory records are approximately complete for Hyde Park, less complete for East Tampa, and least complete for West Tampa. In fact the laboratory records show only eight cases for West Tampa during the year, although Dr. Howsley estimates that there were approximately 100 cases in the city.

With the admitted inaccuracies of the case records at one's disposal, we believe they can be trusted to show the direction that the curve takes, if not its height.

But when we come to compare the curves of East Tampa, West Tampa, and Hyde Park, a new variant is introduced. The completer records of Hyde Park will make it appear disproportionately high, or, better stated, the incomplete records of East Tampa and West Tampa make them appear disproportionately low.

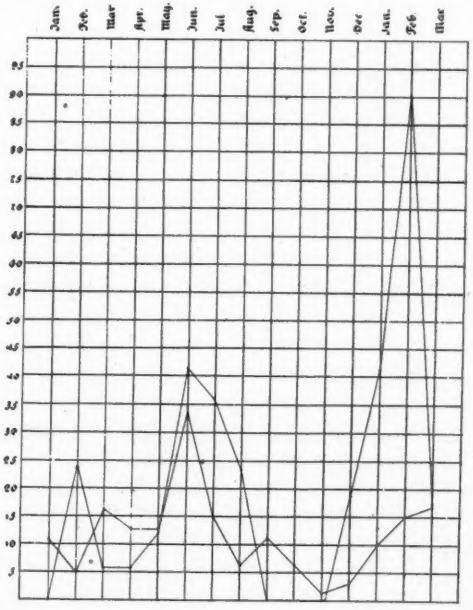
But, beginning with December and running through March, it is believed that nearly all cases were reported, and in all parts of the city. The doctors were interviewed and every case that could be located by any means was taken into account and reduced to a uniform population basis, and plotted as curve 1. After all possible error is allowed for the tremendous difference will be seen at a glance. Nothing short of a wholesale pollution of food supplies will account for it.

AMOEBIC DYSENTERY.

For the last several years, (fifteen or twenty), an occasional case of liver abscess has appeared in the scene in Tampa. It is only within the last five or six years that bacteriological examinations have been made to any extent in the state, and only since 1910 have laboratory facilities been easily available in Tampa. During the year 1911, prior to December, three cases of amoebic dysentery

(one imported) were diagnosed by the laboratory. In December there were three, January five, and February seven. Dr. Lawrence and others, who have been in practice in Tampa for many years, are of the opinion that during the four months from December to March inclusive, more cases of amoebic dysentery have occured in Tampa than in a dozen years altogether previously.

And what is more, heretofore it has usually been confined to the Latins—usually Italians;



The black line shows the typhoid curve of the eastern portion of Tampa, that portion east of the Hillsboro River. The red line shows the typhoid curve of Hyde Park, the two reduced to a common population basis. Note the upward swing of the curve in the latter part of December in East Tampa and the acute upward flight in Hyde Park.

but now it is among Americans, and mostly in Hyde Park.

This, to us, seems more than accident, and throws valuable light on the situation. Since amoebic dysentery lighted up at the same time that typhoid did, giving a parallel if not so high a rate, and likewise having crossed the line of nationality which it has apparently not done before, we feel justified in assuming that the two diseases have a common source of origin.

And this brings us face to face with the methods of infection in amoebic dysentery. Not the "possible and "theoretical" methods, but the actual methods by which it is transmitted in epidemic proportions. And this narrows down to water and food polluted with entamoebae. Musgrave and Clegg, in Manila, assuming that it is transmitted in no other way, and instituting prophylactic measures accordingly, had only one-tenth the amoebic rate among the soldiers that they had among the civilian employees of the government. It is possible that the amoeba may be transmitted in other ways, but this is the only way as yet so definitely proven.

WATER.

The following notes on the water supply of Tampa were kindly furnished by Mr. McFarland, who had charge of the water plant in behalf of the Tampa Water Co. But first of all it should be observed that the water supply of East Tampa, Hyde Park, and West Tampa is all from the same source.

REPORT ON WATER SUPPLY, TAMPA WATER WORKS CO.

The water supply is taken from artesian wells located along the north and east bank of the Hillsboro River between Estelle St., and the bridge across the river at the north end of Gracia Ave.

There have been twenty-six wells completed on this property and there are now in use eighteen which vary in depth from 165 to 328 feet. These wells are all what are known as ten inch wells. They are cased with ten inch casing from the top of the ground down to the rock so as to shut out all surface water. The pressure on these wells when they are all shut off indicates that they have a head from twelve to seventeen feet above mean sea level. The formation in the territory described seems to differ very materially. It was found necessary to use casing in these wells from a minimum of fifty-six feet to a

maximum of 146 feet. A record was kept of the formation in most cases. In others it was only kept until such depth as a water bearing rock was found.

There is one well above the bridge which is known on the records of the water company as No. 20, this being the one furthest up the river. We include statement of the formation:

From Surface	To	Feet Made	Formation
0	32	22	Sand and clay
22	31	9	Soft rock
31	55	24	Clay mixed with dark sand
55	63	8	Blue clay, stiff, with greenish cast
63	64	1	Hard flinty rock
64	67	3	Gray hard rock
67	82	15	Grayish rock, medium hard
82	87	5	Whitish rock, soft
87	97	10	Whitish rock, medium hard
97	102	5	Grayish rock
102	152	50	Medium hard, gray in color
152	154	2	Gray porous rock, medium hard, water bearing
154	155½	1½	Flinty rock, no water
155½	181	15½	Gray porous rock, strongly water bearing
181	183	2	Gray rock, no water

There were sixty-two feet and four inches of casing used in this well and it was driven in the rock and blue clay so as to exclude all surface water.

This water was analyzed, when the well was completed, by Booth, Garrett & Blair of Philadelphia. Report as follows:

	Parts per Million
Total solids	430.
Volatile solids	70.
Fixed solids	360.
Nitrogen as free ammonia	0.034
Nitrogen as albuminoid ammonia	0.008
Nitrites	None
Nitrates	None
Chlorine	132.
Alkalinity	110.
Hardness	156.7

The chemist stated that this water is a good quality for domestic purpose and for drinking.

The well about 150 feet south of this had a much different surface formation and it was necessary to use 146 feet of casing to shut out all surface water. The well located at the extreme lower end of the water supply in Estelle Street near Highland Avenue is known to the Water Company as well No. 19; the record is herein given so as to show the two extremes from which the water is taken. This well is 250 feet deep. The record taken at the time of the sinking of this well was as follows:

From Surface	To	Feet Made	Formation
0	16	16	Sand
16	39	23	Soft rock
39	64	25	Clay, dark blue of greenish cast
64	66	2	Rock
66	100	34	Dark blue clay
100	120	20	Soft rock, some water
120	125	5	Hard rock
125	145	20	Soft rock, some water
145	150	5	Medium, hard rock
150	161	11	Soft rock, some water
161	173	12	Very hard rock
173	188	15	Soft rock with streaks of clay
188	195	7	Soft rock
195	205	10	Very hard rock
205	240	35	Soft rock

This water was also analyzed by Booth, Garrett & Blair, of Philadelphia, who report as follows:

	Parts per Million
Total solids	331.
Volatile solids	36.
Fixed solids	295.
Nitrogen as free ammonia	None
Nitrogen as albuminoid ammonia	0.006
Nitrites	None
Nitrates	None
Chlorine	100.
Alkalinity	130.
Hardness	142.5

The chemist reports that this water shows no indications of organic pollution, and they consider it good quality for domestic purpose and drinking. All of these wells when they were completed had samples taken and sent to the chemist in Philadelphia, and in all cases were not added to the water supply unless the report was satisfactory. In case the well showed large quantities of chlorine it was excluded, not because it was believed to be unhealthy, but because it made water unpalatable. Strange to say in some instances where the water seems to come from the same formation and the same level the water carries much more chlorine than in others, and in one particular instance, the water when first analyzed

showed a much larger proportion of chlorine than it did in after years and does now. This to my mind indicates that this water is passing through or over some formation in which there is a large quantity of salt. To my mind the presence of chlorine does not indicate pollution, but indicates there is some source from which this water is taking up the salt as deposited in the earth. These wells have a connection to a conduit which is laid about four feet below mean sea level, and by this connection the water is conducted to the receiving well at or near the pump house. From this receiving well the water is taken by the pumps and delivered into the distribution system supplying the city of Tampa and West Tampa. Therefore, there does not seem to be any way in which this water can be contaminated and be unwholesome.

This company has made diligent search of a supply and has had analyses made of every possible source of supply within ten miles of the city of Tampa, and it has been the observation of this company that there is no other source of supply which would be as satisfactory to the public as that which is now being delivered to them.

The analyses of the water east of the city indicates that it is of the same quality as that which we are now supplying, but for your information I wish to state that it is seldom that the analyses from two different artesian wells are the same. They seem to vary in the same locality, but the most pronounced variation is the total amount of solids and the total amount of chlorine carried in the water."

In addition to this, Dr. G. H. Simon, of the State Board of Health laboratory, Tampa, kindly made bacteriological examinations and reported as follows:

"As requested, we made a series of examinations of the city water supply, more especially that portion of it relating to Hyde Park and Suburb Beautiful.

"The first specimen obtained was from the residence of Mr. Hewitt Hill, 106 Plant Avenue. At this place the water faucet was on the porch at the rear of the residence, unprotected from dust and dirt of the street.

"The second specimen was obtained from the residence of Mrs. S. Barrett, 707 Boulevard. At this plaec the faucet from which the water was taken was located in the kitchen.

"The third specimen was taken from the residence of Mr. Wiggins, 911 S. Oregon Street, at which place the water faucet was also in the kitchen.

"In each instance we endeavored to avoid having the water contaminated from the outer surface of the pipes, etc., by first going over the faucet with an alcohol flame, after which the water was allowed to run a few minutes before taking sample for examination. Of the three samples taken, but one showed evidence of contamination, that from 106 Plant Avenue, the other two being absolutely negative. In spite of the extra precautions taken to avoid any outside contamination, I am of the opinion that in this one instance the situation of the faucet on the back porch, where it was exposed to the dust from the street, owed its contamination to a few organisms that escaped the effects of the alcohol flame, and came from the street or from other sources rather than from the city water supply. This is substantiated by the fact that the other two samples obtained under more favorable conditions gave absolutely negative results for sewage contamination."

With this evidence before us we could not but consider the water entirely exonerated.

FLIES.

It is our experience and belief that flies constitute the chief source of typhoid infection in this State. Year by year the evidence to this effect is accumulating. The anti-fly crusade which has swept the world, and in which Florida has had a conspicuous part, is the outcome of that belief, although it is only recently that Faichnie has shown the exact role that flies play in the dissemination of this disease. We had formerly supposed that the chief source of danger lay in flies feeding on typhoid ex-

creta and then by walking over food spreading the infection in their wake. Faichnie found that this is not the chief manner in which flies spread typhoid fever. He found that when they were bred in typhoid stools they become infected with typhoid bacilli while yet maggots, and that they carried this infection through the pupal stage, and emerged as adult flies already carrying typhoid bacilli in their intestines, and spreading them in the excreta; that they remain typhoid carriers the balance of their lives. He found that it is rare for flies not bred in typhoid excreta to transmit the infection merely by visiting the excreta and bearing it away on feet and wings and body. He says:

> Experience seems to show that infection conveyed by flies' legs, natural though it may appear from all the experiments carried out to prove its possibility, is not a common, nor even a considerable cause of enteric fever, in time of peace at any rate. On the other hand, infection by the excrement of flies bred in infected material explains many conclusions formerly difficult to accept. In other words, it is the *breeding ground* that constitutes the danger—not the ground where the flies feed. (Journal Royal Army Medical Corps, Nov., 1909. Cit. Balfour.)

It might be observed in passing that this is an important point and not sufficiently appreciated. It gives the cue to a logical attack on flies. If we had to eliminate flies in order to get rid of typhoid fever the task would be impossible. But if this observation of Faichnie is extended and verified, it will at once indicate that all we have to do to eliminate the fly from the typhoid question is to so dispose of sewage as to keep him from breeding in typhoid excreta.

In the present outbreak it is impossible to reconcile the proposition that it might be fly-borne, with the fact that the highest curve was reached in the best sewer and screened part of the city, and at the time of year when flies are fewest.

MILK.

In the absence of reliable case records, it is even more difficult to establish the guilt or innocence of milk than oysters, as it is used in so many forms and by so many people. Here again we have to resort to broad epidemiological principles, and in the outset, that we may be better understood, we would emphasize the following facts:

1. That when milk leaves the udder of a healthy cow it is clean.
2. It may become contaminated in the following ways:

a. By flies that have bred in typhoid stools, and to a certain extent by flies that have merely fed on typhoid stools. Such flies walking over the milk vessels, falling into milk, etc., are likely to spread the infection of typhoid fever. But typhoid fever transmitted in this way should not be designated milk borne, but fly-borne. This will be considered further under the caption of flies. It is not known if amoebic dysentery can be transmitted by flies.

b. By the dairyman leaving a milk bottle at the home of a typhoid patient and calling for it in his rounds next day. It is possible for the bottle to get infected and then if not properly cleaned before being filled again it will be an infected bottle likely to be delivered somewhere else on his rounds. This is a theoretical consideration, but of very minor importance in an epidemic, since all cases transmitted in this way are secondary cases.

c. By a milker who has had a mild case of typhoid fever, or who has had the disease and is still excreting typhoid bacilli. Typhoid fever in the family of a careless dairyman would be almost as dangerous as if the milker himself were a carrier case. Typhoid fever transmitted in this way is designated milk-borne. It is not known if amoebic dysentery could be transmitted this way from an amoeba carrier, but the danger would probably be infinitely less than in the case of typhoid fever because the typhoid bacillus grows readily in milk, while the entamoeba is difficult to grow artificially under any circumstances.

d. By watering milk with contaminated water. This is little more than a theoretical consideration, in this State at least, for it has been shown that contaminated water is very rare in Florida. In fact, we have record of only one instance. But, on the contrary, a considerable number of examinations, all of which have been negative, furnish stronger and stronger evidence that contaminated water is hardly to be reckoned with. How rare it is to have milk watered we would not undertake to say, but considering the rarity of contaminated water, it must be rare indeed that the two should coincide.

In the light of the foregoing considerations, if we were to assume that about the middle of December the dairymen of Tampa suddenly began watering the milk in a wholesale way, and using water that was contaminated with both typhoid bacilli and amoebae dysenteriae, and if they were to keep it up for a period of about three months, and then drop it off, we would have about the typhoid picture that we have, for in West Tampa the population is mostly Latin, and use milk hot, consequently

West Tampa would be very slightly affected by it; East Tampa, about half American and half Latin, would have a considerable increase of typhoid fever, chiefly among the Ameircans, since they take milk raw; while Hyde Park, purely American, would have a very great increase in typhoid, and possibly amoebic dysentery. But such an assumption would, barring malicious intent, violate every law of possibility.

Again: If we were to assume that about the middle of December suddenly a large number of typhoid carriers were to become engaged in milking, and were to assume that some amoeba carriers were capable of transmitting amoeba in the same way that typhoid carriers transmit typhoid, and were to assume that some amoeba carriers were likewise engaged in milking, we would have a similar picture, but such a set of assumptions is absurd on its face.

OYSTERS.

In the absence of case records we are forced to the expedient of depending upon the known epidemiology of typhoid and amoebic dysentery to determine the part that any given article of diet might play. This was our condition with reference to oysters. But even here we were not helpless. Twenty-five dealers were interviewed as to the source of their oysters, and it was found that they all came from Apalachicola, Carrabelle, Long Bar, Catfish Point and Catfish Creek. So far as is known, these sources of supply are above suspicion. But, and this is important, the oyster season begins about September, although the typhoid fever and amoebic dysentery did not begin till the latter part of December. With these facts before us, and the additional fact that oysters have never been accused so far as we are aware, of being instrumental in the transmission of amoebic dysentery, we feel abundantly justified in eliminating oysters as totally inadequate to account for so widespread an infection.

VEGETABLES.

We now turned our attention to vegetables. It was found that nearly all of the vegetables uesd in Tampa are grown in the valley of a little stream (if it can be called a valley) partly within and partly without the city, on the eastern border, and known as Garytown. Mr. Ball, one of the leading grocerymen, estimates that 95 per cent of all the vegetables used in Tampa are grown in this locality. Engaged in the pursuit of gardening are Americans, Cubans and Italians. It was variously rumored that the Cubans were fertilizing with night soil. We made a close investiation of this and satisfied ourselves that this was not true. Or if at all, to such a limited extent as to be totally inadequate to explain the situation in hand.

We consulted the records of the Weather Bureau, and found that on the 15th and 17th of December there was a very heavy rain, 1.95 inches having fallen in twenty-four hours. This flooded all the lower portions of the valley. Mr. McFarland, who has considerable gardening interests, estimated that 75 per cent of the gardens were overflowed. Now, the watershed of this little stream is roughly estimated at four square miles. It is conservatively estimated that 1,500 people living on this watershed are using surface closets. We get record of sixteen cases of typhoid fever and three cases of amoebic dysentery on this watershed during last year.

Looking back over the reports of the Weather Bureau, it was observed that on the 28th of November, and on the 18th and 19th of October, and on the 26th of September, there had been similar heavy rainfalls.

Now, if this infecton is due to the vegetables having been flooded with the polluted drain water of the valley, why did it suddenly spring up after the December rains instead of the November, or the October or the September? Inquiry among the gardeners as to when the vegetables come into the market, answered this question satisfactorily. Mr. Ball did not han-

dle any green vegetables to speak of till the first of January. And with the exception of lettuce, there seem to have been practically no green vegetables in the market prior to that time. But lettuce gradually found its way into market earlier. Mr. Smith, of the Dairy Kitchen, told me that he had had lettuce on his table since September. Mr. Smith's, however, was grown in West Tampa. The Havana Restaurant told us that they had lettuce salad on Christmas Eve; from which it would seem that lettuce was fairly in the market by the middle of December, when the valley was flooded.

There is still another question to be answered: If flooded lettuce is responsible for the dissemination of the two diseases, why is it that Hyde Park has more than her share, while West Tampa escapes? Mr. Ball is a groceryman who supplies a large part of the Hyde Park trade. He tells me that practically all the lettuce that he sells goes to Hyde Park patrons. That the poorer people usually buy staple groceries, while the better-to-do buy the more fanciful but less nutritious foods. A canvass of West Tampa was made to determine to what extent lettuce was consumed over there. The first man interviewed was a vegetable vender. He had all other vegetables displayed on his wagon, but no lettuce. He said that he bought about two dozen bunches every three or four days, and what he didn't sell gave to his cow. Said he usually had some to give to the cow. He supplied regularly fifty families. The Havana Restaurant had no lettuce. Said they had made salad on Christmas Eve, and possibly six times since. Three different grocers were asked if they had lettuce, but none was to be had. The uniform reply was that there was no demand for it. A very large vegetable wagon was interviewed but had no lettuce. In fact, we did not succeed in finding a head of lettuce in West Tampa, although we were told by one of the venders that he had some in his wagon, but none was in sight. From which we conclude that very little lettuce is consumed in West Tampa.

In East Tampa, on the other hand, the grocerymen interviewed sold some lettuce; Mickler, for example, stated that he had sold moderate quantities of lettuce in his trade, which is largely in the eastern part of the city. From these considerations the conviction forces itself upon us that most lettuce is consumed in Hyde Park, less in East Tampa, and least in West Tampa.

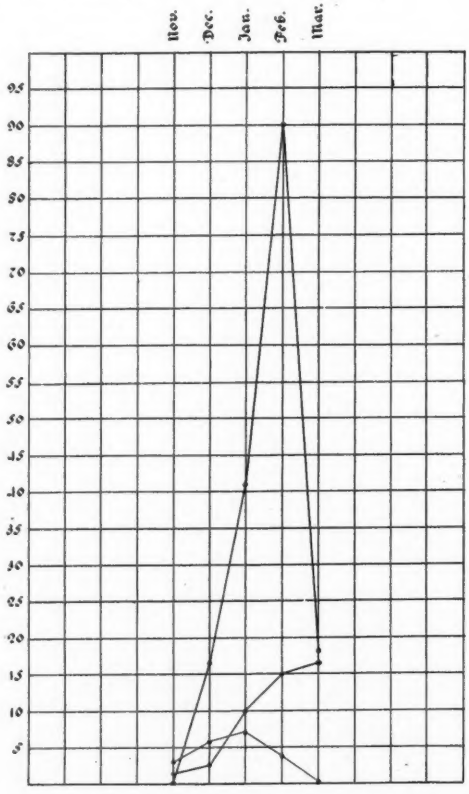


Chart showing the relative rate of typhoid fever of Hyde Park (red), East Tampa (green), and West Tampa (black), from November till March, reduced to a common population basis. Note beginning in December the acute upward flight of the curve for Hyde Park, the upward slope for Hyde Park, and the gentle arch for West Tampa.

The reasons for this are likely found in the different nationalities that go to make up the population. Hyde Park is composed exclusively of Americans, and of the more exclu-

sive Americans. West Tampa is almost pure Latin, while Eastern Tampa is about half and half, American and Latin. The Americans eat more salads than the Latins. And again when the Latins make a salad, they usually use olive oil, which is the most expensive part of the dish. Olive oil has been high this year, and there has been a cigar strike on beside, which has made money scarce, and this may have had some influence upon the amount of lettuce consumed by the Latins.

When the evidence began to exclude other possible sources of infection, and at the same time to point more and more strongly toward pollution of vegetables (this was before it narrowed down to lettuce), we summoned the laboratory to the witness stand. Though we realized that conditions in March, and in December, just after heavy rains, were entirely different, still we took a chance on examining the water of the creek and the cress that was growing in it for evidence of sewage contamination. The following is extracted from Dr. Simon's report:

> You will recall that there were four samples of water, and one sample of watercress, obtained from the creek running through the truck garden district of Garytown. From these five samples a series of plates were made, using litmus-lactose-agar for plating purposes, and glucose-bouillon for fermentation tests. Of the specimens of water, one showed evidence of sewage contamination, as did also the specimen of cress, obtained from the creek. The sample of water showing the sewage contamination was the one obtained from the small ditch emptying from the street into the large creek. This not only showed acid bacillus (probably colon) but also one colony of a motile bacillus, that in many respects resembled the typhoid bacillus, showing some tendency to agglutination with typhoid blood.

Considering the fact that the creek was low at the time, and that so long a period had elapsed since the flooding, we hardly expected to get even this much evidence. And while it is not conclusive, still it is strongly suggestive:

CONCLUSIONS.

1. That typhoid fever was unusually prevalent in Tampa.

2. That amoebic dysentery was likewise unusually prevalent.

3. That this unusual prevalence began in the latter days of December and continued rising on through January, reached its maximum in February and began to fall in March.

4. That Hyde Park was the chief seat of the infection, both of typhoid fever and amoebic dysentery.

5. That East Tampa shared the increase to some extent.

6. That West Tampa had very little typhoid and, so far as we know, no amoebic dysentery at this time.

7. That in point of screening and sewering Hyde Park ranks first, East Tampa second, and West Tampa third.

8. That water played no part in the infection.

9. That milk, oysters and flies are likewise epidemiologically excluded.

10. That the source of the infection was likely polluted lettuce, the evidence of which is as follows:

A. That most of the lettuce consumed in Tampa is grown in Garytown valley. (Mr. Ball.)

B. That lettuce gradually found its way into the market from the latter days of September, the market being well opened by the middle of December. (Mr. Smith.)

C. That on the 16th and 17th of December a rainfall of 1.95 inches occurred in twenty-four hours. (Weather Bureau.)

D. That at this time 75 per cent of the vegetable gardens in the Garytown valley were flooded. (Mr. McFarland.)

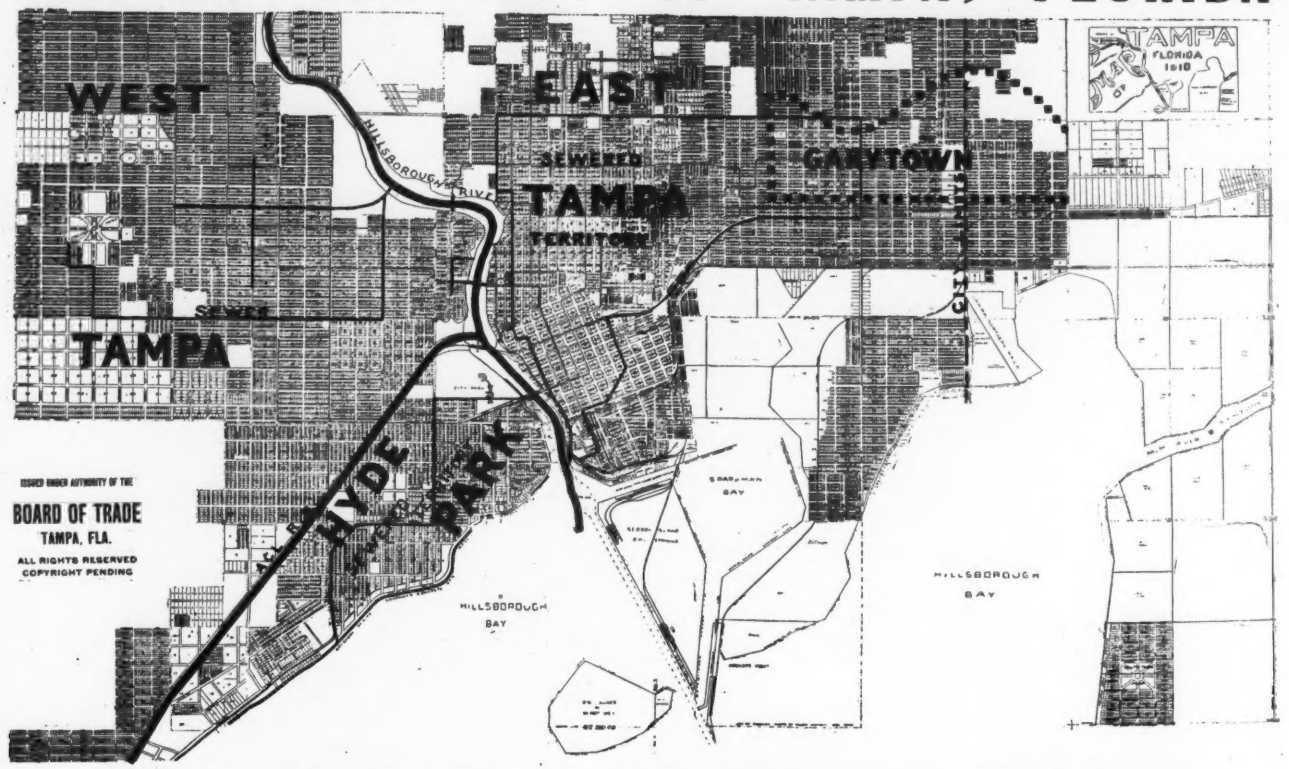
E. That living on the watershed of this Garytown valley are approximately 1,500 people using surface closets.

F. That among these were sixteen cases of typhoid fever and three cases of amoebic dysentery last year. (See laboratory records.)

G. That the flooding of the gardens from a polluted watershed would inevitably pollute the vegetables.

H. This is further substantiated by the fact that a sample of water taken from the creek

MAP OF THE CITY OF TAMPA, FLORIDA



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even in a dry season (March 10) was sewage polluted. (Dr. Simon.)

I. That lettuce was the chief vegetable concerned because it was the only one to reach the market in any considerable quantity till several weeks had elapsed after the flood, and after the typhoid had been well established.

J. That the people of Hyde Park consume proportionately more lettuce than those of the rest of the city, and here both typhoid fever and amoebic dysentery were chiefly prevalent.

K. That the people of East Tampa consume lettuce to some extent, but not to the extent that Hyde Park people do (Ball, Mickler and other grocers), and that here typhoid and amoebic dysentery prevailed to some extent, but not so much as in Hyde Park.

L. That the people of West Tampa consume very little lettuce, and here the typhoid and amoebic prevalence showed no disturbance.

In conclusion, permit me to say that while I alone was detailed to make the investigation, yet Dr. Bartlett, Agent of the State Board of Health for Hillsboro County, rendered such whole-hearted and valuable assistance from the time I arrived till I left and even afterwards, that simple justice demands that this be submitted as a joint report.

Mayor McKay, as chief executive of Tampa, rendered every assistance possible in conducting the inquiry.

Dr. Simon kindly worked up the bacteriological data and the record of cases diagnosed at the laboratory, and rendered valuable assistance in various other ways.

The City Health Officer and the medical profession at large gave united cooperation.

President Bowyer, of the Board of Trade, took a very lively interest in the situation, when the findings were informally rendered before that body, and the Mayor had expressed his desire to put in a sewerage system, the plans for which had already been drawn, and I had bespoken the support of the administration in this endeavor. Mr. Bowyer promised that the Board of Trade would use its influence to bring it to pass.

This seems to have met a hearty response from the people in general, for Mayor McKay, who was very outspoken in this policy, has since been reelected to the mayoralty. It is, therefore, safe to predict that it is only a matter of a few months when Tampa will have the strongest bulwark of protection against a similar recurrence that modern science can devise, namely, a complete and magnificent sewer system.

THE RELATION OF WARTS AND MOLES TO MALIGNANT GROWTHS.*

By GILMAN J. WINTHROP, M.D.,
Mobile, Ala.

While the facts of cancer etiology and growth have, so far, eluded the most diligent efforts of the clinician and pathologist, researches on the problem have brought forth much most valuable information. Of especial importance is the discovery of the relation between benign moles and warts and malignant tumors.

The success achieved, in the past decade, in the treatment of neoplasms is due, not alone to the development of surgical technic, but to a greater extent, to the growing appreciation of the necessity of earlier diagnosis of malignancy and of speedy recourse to surgical measures. Bloodgood (1) aptly remarks: "Surgery has apparently reached the limit as to the technic of the most extensive operations. The surgeon must get his cancer cases earlier to improve his ultimate results."

The purpose of this paper is to emphasize

*Read before the Florida Medical Association, May, 1912.

the necessity of the earliest possible recognition of malignancy and to plead for the routine removal of warts and moles as possible precursors of malignant tumors.

The normal structures of the skin comprise the several layers of epithelium forming the cuticle or epidermis (epiblastic) and the connective tissue of the cutis vera or corium with its hair follicles, glands and a rich supply of blood and lymph vessels (mesoblastic). As each of these several tissues may give rise to benign growths we find a number of neoplasms affecting the skin. We shall here consider only the wart, springing from the epithelial layers and the mole, of chorionic origin.

Warts are papillomata with excessive production of surface epithelium. They may affect any part of the skin surface, but are most common on the face and hands.

Bloodgood (1) divides these papillomatous growths into three classes: (1) The spinocellular horny wart; (2) the benign basocellular wart; (3) the mixed epithelial wart.

The spinocellular horny wart (epithelioma spinocellulare solidum) springs from the superficial epithelial layers and is the commonest variety of skin papillomata. Becoming malignant, it gives rise to one of the most malignant of neoplasms, the epithelioma spinocellulare malignum.

The basocellular wart arises from the deeper epidermal layers. It does not show the same tendency to malignant change as does the spinocellular wart and its malignant sequel—epithelioma basocellulare malignum—is the least malignant of the skin cancers.

The mixed wart arises from cells between the superficial and deep layers. It is a comparatively rare tumor and when malignancy develops it holds a mid-place between the two varieties just described.

At what period the benign tumor takes on malignant characteristics is difficult, often impossible, to state. Borst (1) holds that the tumor is benign or malignant from its onset, and that there is no possibility of a malignant change in a benign papilloma. Malignancy is usually shown by rather rapid growth in the benign wart, the tissues about its base become indurated and later ulceration or fungus formation occur. Often, however, these clinical changes are so slow and apparently insignificant that they are not noted by the individual, and the surgeon is not consulted until malignancy is well established and the case inoperable.

Whether, as Borst believes, malignancy is inherent in the wart or whether the malignant potentiality is developed by chronic irritation, trauma or infection, is not decided. Trauma and irritative processes probably are factors in producing malignant degeneration in these formerly quiescent growths and a malignant change is most frequently noted in warts most exposed to such injuries.

Moles are congenital growths or appear in early life. Several varieties are described. The pigmented mole (nevus pigmentosus) may occur as a smooth, non-elevated area or as a prominent warty outgrowth. When covered with hair they are termed hairy moles (nevus pilosus). Fleshy moles (verrucae carnae) are non-pigmented, circumscribed areas, sometimes raised, again non-elevated with generally some hypertrophy of the covering epithelium.

There is still much controversy as to the histogenesis of these pigmented moles, some holding that they arise from epithelial cells of the basal type, misplaced in early embryonic life (epithelioma), while others regard them as of connective tissue origin. The malignant tumors developing from pigmented moles (pigmented alveolar sarcoma) both clinically and histologically resemble sarcomata rather than carcinomata. As Bloodgood has noted (2) the malignant pigmented mole is apparently of embryonic origin or develops early in infancy while the epitheliomata usually develops in or after middle life; the mole shows early metastasis through the blood and lymph channels, while metastasis from the skin carcinomata is

of rare occurrence; further the duration of life in the sarcomata is much less than in the carcinomata.

A large proportion of reported skin sarcomata may be traced back to preexisting moles. Eve (3) reports 26 of 33 skin melanosarcomata as probably originating in pigmented moles. Wilson and Kalteyer (3) record 50 cases of melanosarcomata of the skin, 69 per cent of which started as a nevus or mole. Often the primary growth is so small that only most careful questioning, perhaps recourse to a former photograph, will recall its existence.

The related congenital tumors, nevi and angioma, also may develop into malignant tumors, though this danger is not so frequent as in the pigmented mole. They are essentially vascular tumors and their malignant sequelae may result from a proliferation of the perithelial cells (perithelial angiosarcoma) or of the endothelial cells (endothelioma). Both types are quite malignant.

Malignant degeneration of moles is shown by local growth, usually slight, superficial ulceration of the growth and rapid metastasis by the blood and lymph channels. Here, as in the case of warts, trauma, chronic irritation, etc., seem to be factors predisposing to malignancy in these formerly benign tumors.

Realizing that these sarcomata and carcinomata, springing from seemingly benign growths, are among the most malignant of neoplasms and that once malignant changes have taken place even the most extensive and mutilating operations offer but slight chance of permanent cure, the importance of removal of these tumors, while benign, cannot be too strongly emphasized.

The simple operation of removal of every wart and mole, especially when located in regions liable to trauma and irritation, will do much towards decreasing the mortality from malignant disease.

The use of caustics, in attempting to remove these growths, is to be deprecated. Too often such measures simply start the malignant change and even if complete removal be accomplished the time required, the pain, and resulting scar are more than from complete removal with the knife. Once malignancy is established complete and thorough extirpation of all affected tissue, together with all metastastic tumors, must be resorted to.

It is our duty as physicians and surgeons to demand of our patients that they have such growths removed. Let us see in these benign skin growths the parent nuclei of the most fatal neoplasms and in justice to our profession and our clientele use prophylactic removal to avert later hopeless operative procedures.

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CONSTIPATION AND ITS TREATMENT.*

By D. W. McMILLAN, B.S., M.D.,
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Constipation is the retention of the feces in the bowel beyond the normal period for defecation.

Some patients may have a bowel movement once in twenty-four hours and yet be constipated, the colon being loaded with feces. Some may have a movement only once in three or four days or a week, and yet be free from any abnormal symptoms.

Many cases are on record of one evacuation in one, two or three months. One movement in twenty-four hours is normal, in some

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

cases two are usual. One bowel movement in twenty-four hours is considered normal in the average individual.

Constipation is a symptom of functional derangement, although organic disease may sometimes produce it. Our knowledge of the subject has been enlarged by the brilliant experimental work of Dr. Hertz, of Guy's Hospital.

One of the principal difficulties was the location of the particular part of the intestine in which the delay in the passage of feces occurred. Hertz gives one-half to two ounces of bismuth oxychloride with the test meal, usually bread and milk.

Through the X-Ray the shadow it casts is followed in its passage through the alimentary canal. We were, of course, aware of the peristaltic wave passing from the duodenum down through the intestinal tract. Dr. Hertz has demonstrated segmentation. The intestine becomes constricted in the center until it divides, and this segmentation continues at different points until the shadow presents numerous ring like constructions. He claims that the segmentation is developed for the purpose of thoroughly mixing the food with the secretions, and bringing it in contact with the absorbing surface of the intestinal wall. Segmentation takes place only in the small intestines, the movement in the colon being oscillatory in character.

Hertz's experiments show that the shadow of the bismuth test meal reaches the caecum in four and a half hours; six and one-half hours to reach the hepatic flexure; nine hours to reach the splenic flexure, and eleven hours to the beginning of the iliac colon; the passage through the colon two hours.

The interval between the ingestion of a meal and the excretion varies from nine to thirty-two hours. The alternate contraction and relaxation projects the food and admixture forward, the stimulus being both mechanical and chemical. The cellulose producing the mechanical, and the sugar, organic and fatty acids, gases and bacteria developed by fermentation and putrefaction, furnish the chemical stimulus. Mechanical stimulation is supplemented by physical exercise, hot and cold drinks and external stimuli. To be exact we should consider that patient constipated who does not empty the colon beyond the splenic flexure, because a patient may have one or more movements in twenty-four hours and yet his colon will be loaded with feces.

We can determine in a simple way whether a patient is constipated: If there is a movement at 7 a.m., administer charcoal at 3 p.m. If some of the charcoal is not passed by the second morning after it is taken you diagnose constipation. This method is advised by Hertz. If the case is obscure, an X-Ray examination following a bismuth test meal is necessary. A careful examination should be made in connection with the patient's history. A physical examination, with microscopical examination of stomach contents and feces, followed by digital examination of rectum, and examination with a sigmoidoscope.

THE CAUSES OF CONSTIPATION.

There are many, varying with the fundamental or organic derangements consequent upon the various diseases to which we are subjected. Constipation due to slow or delayed passage of feces through intestines, or the lack of development of tone, or to atrophy of the musculature, or weakness of abdominal muscles, very common in senile cases; Cachexia from lead or other mineral poisoning, or from cancer, tuberculosis, fever, obesity, insufficient nourishment, improper food, lacking in mechanical or chemical stimulant; excessive digestion which Hertz calls "greedy colon;" deficient exercise, very common among indoor workers, cab drivers, automobilists, prudery, laziness, tight lacing, improperly fitted corsets, visceroptosis, profound emotion, fear, grief, excitement and melancholia. The excessive use of tea, tobacco and red wine. Incorrect posture at stool. The closet seat being too high, there is not sufficient intra abdominal pressure.

According to Arbuthnot Lane the seat should be placed at an angle, and should be

about nine inches in height, thus enabling one to assume the squatting posture of primitive man. The thighs and abdominal wall are thus brought in contact, and the intra abdominal pressure is greatly increased and the expulsive force in the right direction.

Irregular habits, the call of nature being put off for various reasons to a more convenient time and the normal sensation is finally lost. Painful affection of the alimentary tract, cancer, ulcers; patient, through fear of pain, takes insufficient food or food of too concentrated form. Abuse of laxative and catarrhal or inflammatory condition of the intestinal tract. Displacement or disease of pelvic or abdominal organs.

Gastric hyperacidity and rarely anacidity, organic disease of spinal cord; hemiplegia; hyperthrophy of Houston's valves; hypertrophy of anal sphincter or fissure. Appendicitis, pressure of tumor or foreign bodies; enlarged prostate, stricture of rectum; adhesions, constrictures or growth pressing upon the intestines.

The German authorities divide constipation into two stages: 1st, the atonic stage. This is due to too complete digestion and absorption; deficiency in bulk of residue. Deficiency of bacteria and gases result and the mechanical stimulus for peristalsis is wanting.

The condition is aggravated by insufficient exercise, irregularity and weakness of abdominal muscles and other factors.

THE ATONIC.

Constipation develops in time into spastic constipation. The spastic stage is accompanied by much irritation, catarrhal inflammation and the passage of shreds of mucus. There are pain, tenderness on pressure, and irregular attacks of so-called colic.

Conheim describes a third stage following prolonged attacks of spastic constipation which he terms stercoreal diarrhea. Attacks of diarrhea alternating with constipation. These patients are usually neurasthenics.

The atonic stage of constipation, apart from the irregular action of the bowels, presents few symptoms. Languor, lack of desire for mental or physical exertion, coated tongue, fetid breath, sallow skin, slight headaches, vertigo, vague physical discomfort. Enemas and laxatives relieve for a time.

The atony of the musculature of the intestines does not develop during the first stage of atonic constipation; the constipation primarily is in a large measure due to the too quick absorption and digestion of food. As a consequence too little residue, and deficiency in bacteria and gases and in deficient peristalsis.

In atonic constipation the stools are normal in size and shape and the rectum is filled with feces. The spastic stage gives rise to more pronounced symptoms, patients are nervous and irritable. Suffer much from abdominal tenderness, eructation and attacks of colic followed by the passage of mucous.

The rectum, unlike atonic constipation, is empty. In spastic constipation the feces are small in calibre and ribbon shaped or rod shaped.

TREATMENT.

The treatment consists, first, of removing the cause, if possible. Correction of visceroptosis by proper support. Replacement of displaced pelvic or abdominal organs. The employment of surgical procedure when necessary.

Dilation of contracted sphincter when indicated. Valvotomy when due to hypertrophy of Houston valves. We should begin a proper regulation of patient's habits. Establishment of a regular hour for evacuation. Assuming the proper position at stool. Have a low closet seat permitting a squatting position, thus allowing an approximation of the knees and abdominal muscles, thus increasing the intra abdominal pressure and directing the expulsive force in the right direction. The practice of regular physical exercise.

Assume a recumbent position and bring the body to a sitting position, with the body rigid from the hips downward; slowly resume the former position. Maintain the rigidity of the

body from the waist line upwards and bring the feet up to a right angle, slowly resuming the former position.

Stand erect with the hands extended straight above the head, bring the body forward until the hands touch the floor, slowly resuming the standing position.

Stand erect and with the hands upon the hips, make the trunk describe a complete circle. Spread the feet far apart, extend the arms laterally, rotate the body as far as possible to the right, touching the toes of the right foot with the fingers of the left hand, and vice versa.

Standing erect, bring the right and left knee in contact with the chest wall.

All these exercises should be done against resistance. This is rather difficult and tiring for beginners, but very necessary. Walking upon level surfaces is of no benefit. Hill climbing, rowing, and, to an extent, horseback riding are beneficial.

The avoidance of mental worry or preoccupation. Fix the attention upon the bowel movement and avoid reading at stool.

The diet is most important. In atonic constipation the need is principally one of mechanical stimulation.

Foods rich in cellulose should be prescribed. The drinking of one or two glasses of cold water upon arising. The exercises already described, and massage of the abdomen.

Commencing with the ascending colon follow its course, first stroking with the open palm applied to the abdomen; follow this with rolling, kneading and pinching of the colon with the thumb, index and middle fingers; then the chopping movement with the edge of the palm.

In lieu of this a cannon ball of eight or ten pounds weight, covered with chamois skin may be rolled over the colon from the ascending, over the transverse to the descending colon.

Faradic electricity may be applied. A pad placed alternately over the abdomen and spine, the electrode in the rectum.

Patients should avoid the use of cocoa, strong teas, chocolate, red wines, grits and rice, and too much sweet milk and white bread. The best bread in the beginning is bran bread.

One quart of bran, 1 pint white flour, 1-2 teacup of molasses, 1 teaspoonful of soda mixed with a portion of the molasses, 1 teaspoonful of salt. Mix well and add 1 pint of buttermilk. Bake for an hour or two over a slow fire.

Whole wheat bread, corn bread and rye bread may be allowed. All kinds of fruits except bananas. Give apples, peaches, apricots, raw or cooked; pears, raisins, figs, steamed prunes, honey. Vegetables of all kinds, cooked and raw. Sour milk, buttermilk, meat to a moderate amount. Plenty of water.

SPASTIC STAGE.

In this condition there is a previous history of long continued atonic constipation plus irritation, irritability, inflamed and catarrhal condition following.

TREATMENT.

Advise rest, avoidance of worry or undue mental or physical exertion. Warm clothing and a flannel bandage worn over abdomen. The use of four to eight ounces of olive oil warmed, a method first advised by Fleiner. A short rectal tube is introduced six or eight inches, a funnel attached and the oil allowed to flow in. The patient assumes the left lateral position with the knees drawn up. After remaining in this position for five minutes, turn and lie upon the abdomen for ten or fifteen minutes. The oil soothes the inflamed mucous membrane, softens the hard feces and dissolves the mucus. It undergoes chemical decomposition with the formation of soap and fatty acids, and this stimulates peristalsis.

The oil enema should be retained until arising in the morning. Prolonged warm baths and warm compresses are beneficial.

A diet advised by Conheim I have found of most service. A certain school of Continental practitioners at whose head is Von Noorden advises a coarse diet, but in my limited experience I have had better results from the diet of Conheim.

Warm weak tea, warm fruit juices, cream, koumis, buttermilk, sour milk. The vegetables should be of the lighter, more digestible variety. Pears, carrots, asparagus, spinach, mashed Irish potatoes, finely divided and run through a collander, sweet fruit juices, apple sauce, orange or grape fruit marmalade.

Mechanical stimulation is required in atonic constipation, but as Conheim observes, chemical stimulation of peristalsis is required in spastic constipation. Avoid coarse, indigestible foods. Pickles, cabbage, beans, alcoholics, canned or preserved meats and fish, ducks, goose and sausage.

In gastric hyperacidity calcined magnesia; in hypoacidity diluted hydrochloric acid. Give one tablespoonful of milk sugar three times a day.

For the relief of colicky pains give hot drinks and teas, aromatic teas. Extract of belladonna, with or without valerian.

Galvanic electricity over abdomen and back and intra rectal. The treatment above outlined is sufficient for most cases, but there remains a variable number to whom this treatment cannot be applied in its entirety. They may be too careless or lazy to follow out the directions or observe the many rules.

A limited number of cases may be unsuited for the treatment. In these and other cases we have two methods, both of which have given excellent results.

The mechanical stimulation of peristalsis introduced some time ago by MacMillan, of Detroit, Mich. It is more particularly indicated in cases of atonic constipation. A tampon of lamb's wool made rather long and narrow is introduced through a protoscope, folded to a proper degree of thickness is placed near the recto sigmoid junction above the valves of Houston. The tampon is provided with a string so that it may be withdrawn at the proper time. It is inserted in the afternoon, retained three to six hours and then withdrawn; a movement of the bowels follows in the morning.

The treatment should be employed upon alternate days. It is quite effective. The only disadvantage is the patient's objection. The majority of patients strenuously object to instrumentation, particularly the introduction of instruments into the stomach and intestines. In some cases a few treatments will effect a cure. In other cases many have to employ the method for several weeks.

The other method is a physiological stimulation of peristalsis. It was introduced by Dr. Zuelzer, of Berlin. He terms it a peristaltic hormone. I have studied its effects in his clinics. The results were very good in the greater number of cases.

The word hormone was coined by Starling, the physiological chemist. It is used to describe the substance formed by certain cells during metabolism. They have a definite chemical composition, and are known as "chemical reflexes" acting independently of the nervous system. There are various hormones in the body, but the peristaltic hormone with which Dr. Zuelzer worked is found to a limited extent in the gastric mucous membrane of various animals during the act of digestion.

The principal source of supply, however, is the spleen. Dr. Zuelzer teaches that it is produced in the gastric mucous membrane and stored in the spleen. The spleen, therefore, is used as the source of supply. The hormone should be administered in the morning.

The contents of one bottle should be injected at one sitting. Twenty cc.—ten cubic centimeters in each buttock. It is advisable to give two to four tablespoonfuls of emulsion of castor oil a few hours after the injection as a lubricant.

Slight pains and some rise of temperature usually follow the injection. It subsides in twelve to twenty-four hours. Frequently only

one injection is necessary. In very obstinate cases the injection should be repeated two or three times. The hormone is more successful in atonic than in spastic constipation. It will prove of great value in post-operative paresis of the bowels. The injection must be made deeply, about ten (10) cen., and given very slowly. In the most severe cases, and in post-operative cases the intravenous injection of the hormone is to be advised.

In all cases of constipation it matters not the method of treatment employed, one must carefully adhere to the rules regarding diet, hygiene and, when possible, exercise. By observing the methods briefly outlined, individualizing the cases and carefully advoiding the use of drugs, one can obtain very good results.

AMOEBIC DYSENTERY.*

By J. B. WALLACE, M.D.,
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The recent prevalence of amoebic infections in this section of Florida makes this subject worthy of serious consideration. For several years we have had occasional cases of liver abscess, undoubtedly of amoebic origin; these have been found largely among the foreign population, and of comparatively infrequent occurrence. Beginning about six months ago, there has been a very marked increase in the prevalence of amoebic infection; the diagnosis of amoebic dysentery having been confirmed by the laboratory in something like thirty-five cases. But more significant is the fact that during this period, in addition to the cases reported above, about forty cases of hepatic abscess have been found. The frequency of liver abscess, as a complication of amoebic infection, is variously estimated as occurring in from five to twenty-five per cent of cases. It is apparent, therefore, that the larger part of our cases of amoebic infection are not being recognized. A certain per cent of the cases of liver abscess have come from surrounding sections of the state, so that Tampa does not enjoy the unenviable distinction of being the only location in South Florida in which amoebic infections exist.

In 1890 Osler reported the first case of amoebic infection observed in this country; since that time it has been found widely distributed endemically throughout the United States, more particularly the South.

In 1903 Dr. T. B. Futcher reported a series of 119 cases treated at the Johns Hopkins Hospital from 1889 to 1903, with hepatic abscess as a complication in 22.6 per cent of cases.

In a paper before the American Medical Association in 1909 Dr. Sidney K. Simon reported a series of fifty cases observed in New Orleans in the preceding two years, and called the attention of the association to the probable extensive distribution throughout the South of the infection.

The history of the development of our knowledge of amoebic infection covers the past fifty years.

Probably the earliest recorded observation is that of Lambl, of Prague, who, in 1860, described the finding of amoebic organisms in the dysenteric stools of a child.

In 1875 Loesch, of St. Petersburg, found amoebic constantly present in the feces of a patient suffering from dysentery, publishing an accurate description of the organism, and experimentally producing the disease by injecting feces containing the amoebae into the intestines of a dog.

Following this report Koch investigated cases of dysentery in Egypt, finding, on post-

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

mortem examination, amoebae in the intestinal ulcers, also in abscesses found in the liver, and was convinced that the amoeba bore some etiological relation to the disease.

In 1886 Kartulis, working in Egypt, published the results of his investigations in 500 cases of dysentery and liver abscess, definitely establishing the etiological role of the amoebae.

In 1895 Cassagrandi and Barbagalle differentiated between fresh water amoeba and those parasitic to man, and established for this parasitic amoeba to the genus Entamoeba. They concluded that the Entamoeba were not pathogenic.

In 1902 Jurgens differentiated a pathogenic from a non-pathogenic species.

In 1903 Schaudinn conclusively demonstrated the occurrence in man of at least two species of amoeba, one a harmless intestinal parasite, the other the cause of a form of dysentery. Adopting the nomenclature of Cassagrandi for the genus, he named these respectively the Entamoeba-coli and the Entamoeba-histolytics. Numerous observers have since confirmed the work of Schaudinn, and now there is a general acceptance of his findings, with the notable exception of Musgrave and Clegg, who still do not recognize the two varieties.

In 1906 Viereck discovered an amoeba occurring in cases of dysentery that differed from the species already described, and to which he gave the name of Entamoeba-tetragena.

The lesions present in amoebic dysentery are confined to the large intestines, and are quite characteristic. Beginning with nedular areas projecting from the folds of the mucous membrane, and containing motile amoeba, there follows a necrosis of the mucous membrane, covering these areas, with the formation of ulcers. These ulcers spread, by the invasion of the adjacent tissues, downward and laterally. They vary in depth from shallow ulcers with their base formed by the submucous coat of the intestines, to those involving all the coats of the intestines. The lateral extension of the ulcers leads to a characteristic undermining; also, to the formation of sinuses beneath the mucous membrane connecting adjacent ulcers.

Amoebae are constantly found in the tissues forming them, floor and sides of these ulcers, and sinuses connecting them.

The clinical picture is an extremely variable one. Probably the most constant indication is the history of repeated attacks of diarrhoea. The disease is most often chronic, characterized by exacerbations and remissions. During the remissions, the bowels may show normal frequency of movement, or even constipation. With the exacerbations, it is apparent that the character and severity of the symptoms will depend largely upon the location of the ulcers. If at, or below the sigmoid flexure, we have tenesmus, frequent small stools, with blood and mucous. If higher up, the evacuations may not exceed two or three a day. The presence of blood and mucous is fairly constant, but varies greatly in amount. This is the picture that is usually present. On the other hand, we may have to deal with a severe manifestation of the disease, characterized by fever, rapid pulse, abdominal pain and tenderness, severe hemorrhages, and extreme prostration.

One of the first cases coming under our observation gave a history of occasional attacks of dysentery for the past two years; had been ill for ten days with fever and frequent evacuations. At the time of admission to the hospital was having from fifteen to twenty stools a day; temperature 99 to 101, pulse rate 100; extreme tenderness over entire colon, tympanites, constant abdominal pain, and very severe prostration. One week later patent was semicomatose, having daily twelve or fifteen hemorrhagic involuntary, exceedingly foul, gangrenous, smelling stools. Thinking that the situation justified heroic measures, patient was given 80 grains of ipecac over a period of twenty-four hours; following this the temperature dropped to 95, the hemorrhages

stopped and the patient made an uninterrupted recovery. Patient left the hospital four weeks later; the record showing normal bowel movement for the last fourteen days.

A recent case of hepatic abscess gave a history of a slight diarrhoea three months previously, two or three loose evacuations daily for a period of ten days, and subsiding without any specific treatment.

I mention these two cases as illustrative of the wide variation in the clinical manifestation of the disease.

Of the cases that have been noted here, by far the most frequent complication has been abscess of the liver. This complication, so far as I know, has only occurred in cases where no diagnosis of amoebic infection had been made prior to the development of abscess, and were, consequently, untreated cases. Perforation with fatal peritonitis was a complication in four cases; in two cases death was apparently due to exhaustion consequent to repeated hemorrhages.

The diagnosis depends upon the discovery of the amoeba. This may require repeated miscroscopic examinations. In cases presenting a suspicious history, the finding of amoeba is facilitated by the administration of a saline purgative. When the ulcers are situated so as to be visible on exauination with the proctoscope, specimens taken directly from these will often show amoeba when otherwise they are not found.

I am indebted to Dr. R. L. Bensen, of the Bacteriological Staff of the State Board of Health, for the following points in the laboratory diagnosis of amoebic dysentery:

"In the laboratory diagnosis of amoebic dysentery it is essential to bear in mind that there are different types of amoeba. In the first place, there are many species of free living amoeba—the ordinary type found in stagnant water in all parts of the globe. The fairly common practice of drinking rain water or water contaminated by surface drainage often leads to ingestion of these harmless amoebae, and when the stool is examined they may be found. They are merely transient occupants of the intestines and do not cause dysentery. The most marked morphological characteristic which distinguishes them from the parasitic species is the presence of a pulsating vacuole. This vacuole appears like a minute bubble, which grows, due to the collection of nutritive material within it, meanwhile gradually moving toward the periphery, where it suddenly contracts and empties its contents outside the body of the organism. When one observes this phenomenon, he may be sure that he is not dealing with parasitic amoeba, but merely with the stagnant water organism.

"Even among the parasitic amoeba it is necessary to distinguish between the harmless species and the pathogenic species. The Entamoeba coli, although essentially an intestinal parasite which does not occur outside the body except as a contamination from feces, is considered a harmless parasite.

"The Entamoeba coli may be distinguished by the fact that its movements are sluggish and usually show little or no progress in a definite direction, while the pathogenic amoebae usually travels by an active, creeping motion in a definite direction and soon pass out of the field of the microscope. Another distinction is that the ectoplasm, or outer layer, is poorly differentiated in Entamoeba coli from the inner layer, or endoplasm, while in the pathogenic species the ectoplasm is distinctly differentiated, forming a clear, glassy layer, which streams outward to form the finger-like pseudopodia.

"Still another distinction is that Entamoeba coli seldom takes up red blood corpuscles, or at best only one or two, while the pathogenic forms usually contain some corpuscles, and often forms are found which have engulfed as many as six or a dozen.

"Entamoeba coli almost invariably contains a well defined nucleus situated near the center of the organism. The pathogenic species may or may not have a visible nucleus.

"Now, when we come to the pathogenic species we should, if possible, determine just

which pathogenic species is present. Many different species have been described as causing dysentery, but only a few have been proven conclusively to be distinct species. Of these the most broadly distributed is Entamoeba histolytica, which is found in nearly all temperate and warm regions of the globe, and is the type commonly found in the laboratory examinations here in Florida.

"Another pathogenic species which has a wide distribution is Entamoeba tetragena. This occurs in Africa, the Philippines, and to some extent in this country. For our purpose it will be sufficient to distinguish between these two forms which occur as causes of dysentery in this country.

"The Entamoeba histolytica usually has no nucleus, or if so, only an imperfect one, faintly outlined, without a distinct nuclear membrane, and situated near the periphery of the organism. Entamoeba tetragena has a large, distinct nucleus, centrally located, with a thick nuclear membrane.

"Besides the examinations for motile amoebae, another valuable aid in differentiating the different parasitic amoebae is obtained by staining the organisms with a suitable stain such as Wright's. In Entamoeba coli the ectoplasm is stained a faint blue, while the endoplasm takes a dark blue or violet. In Entamoeba histolytica the process is reversed, the ectoplasm taking a deep blue and the endoplasm a faint blue stain. In Entamoeba tetragena the ectoplasm and endoplasm takes about the same degree of stain.

"Animal inoculation also gives a valuable aid in diagnosis as to pathogenicity in otherwise doubtful cases. When injected into kittens or puppies per rectum Entamoeba coli produces no dysenteric symptoms, while both Entamoeba histolytica and Entamoeba tetragena produce a dysentery in four to twelve days which in the majority of cases proves fatal.

"In cases where the differential diagnosis is doubtful the final test is to determine the mode of reproduction of the amoeba found. All of them may reproduce by simple division. But each species has, in addition, a method of reproduction by cyst formation peculiar to itself, which takes place under any condition which is unfavorable for existence of the ordinary vegetative forms.

"Entamoeba coli first becomes encysted and then eight daughter amoebae form within the cyst. Entamoeba histolytica reproduces by spore formation, eight young spores being budded off from the surface of the mother organism, and these later become encysted. Entamoeba tetragena, like Entamoeba coli, becomes encysted, but only four daughter amoebae are formed.

"The formation of the encysted stage is important because it has been shown that only the encysted form is able to pass through the stomach and small intestine of the infected host and reach the large intestine.

"The sources of infection are contaminated water and food; most often uncooked vegetables."

A few of the cases observed here have probably been contracted by drinking surface water in the unsewered districts adjacent to Tampa.

While definite proof is lacking, the consensus of opinion is that most of our cases have originated from the use of contaminated lettuce, or similar uncooked vegetables.

It is possible that contaminated vegetables may be responsible for the occurrence of reported sporadic cases occurring in localities remote from the tropics.

As very pertinent to the subject of etiology, I quote from a recent report of E. L. Walker, Philippine Jour. of Sci. 1911, vi 275: "The Entamoebae are strict or obligatory parasites, and are incapable of multiplication outside of the body of their host. . . .

"An infection with either Entamoebae coli or Entamoebae histolytica must always come directly or indirectly from another infected person.

"Water or uncooked food can transmit amoebic dysentery only when contaminated

with fecal matter from a case of amoebic dysentery.

"The infection with Entamoebae histolytica may be present for an indefinite period after the symptoms of amoebic dysentery have disappeared, during which time the resistant encysted Entamoeba may be passed in large numbers in the stools and constitute an important source of infection to others. Such persons are carriers of amoebic dysentery, comparable to other 'carriers' of typhoid fever or cholera.

"The prophylactic measures for the prevention of dysentery are sufficiently indicated by the preceding conclusions. They are identical with those required for the prevention of other specified infectious diseases of the intestinal tract like typhoid fever and cholera."

Among the physicians here the use of ipecac in the treatment of amoebic dysentery has at the present time practically supplanted all other measures. The method employed is that suggested by Dudley, of Manila, about two years ago, and is as follows: The patient is put on a milk diet and confined to bed; after 4 p.m., takes neither food nor water for four hours, when he is given 30 grains of ipecac in six salol coated pills, swallowing these with as little water as possible. The patient takes no food or water during the night; the next day he takes water and milk liberally until 4 o'clock, and after a four hours' fast is given 25 grains of ipecac. The dose is reduced five grains daily until the 5-grain dose is reached. Patient is then put on light diet and daily dose of five grains continued for a week or ten days. If the pills are properly prepared there is little or no nausea. This treatment has given excellent results; as to whether or not they are permanent sufficient time has not elapsed to determine. The local treatment by irrigations with various amoebacidal solutions has failed to give satisfactory results.

In presenting this paper, I have attempted only a superficial consideration of the many phases of the subject of amoebic infection. I believe that so far there has been no widespread diffusion in this state of the pathogenic species of amoebae, but from the standpoint of climate and drainage, many sections of the state are favorable to the epidemic prevalence of amoebic dysentery. The extremely serious nature of this disease justified the employment, where prevalent, of every effort towards its eradication.

SOME CONSIDERATIONS ON DYSMENORRHOEA.*

By GERRY R. HOLDEN, M.D.,
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Painful menstruation is universally considered to be a symptom of certain and various abnormal conditions rather than an entity in itself. Rational treatment of dysmenorrhoea, therefore, does not consist in merely supplying temporary relief at each monthly recurring crisis. It should be rather an attempt to reach and correct the underlying conditions on which the dysmenorrhoea depends. The method of treatment must accordingly vary with the different etiological factors and must depend upon a certain knowledge of these factors and the ability to recognize them when present.

The various hypotheses which endeavor to explain the immediate causes of the menstrual pain we shall not discuss here. They are but hypotheses and none of them is capable of scientific proof. This paper will attempt to consider dysmenorrhoea more from the clinical standpoint. It will endeavor to so differentiate certain types that our classification,

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

while possibly crude, may still have some positive value from the therapeutic standpoint.

Dysmenorrhoea may be divided into two great classes—First, dysmenorrhoea associated with and apparently directly caused by some pathological condition of the pelvic organs; second, dysmenorrhoea apparently independent of local pelvic conditions and caused entirely or in great part by some general extragenital condition.

In studying a case of the first class we find on examination a woman entirely normal except for some pathological condition of the pelvic organs. By criteria which will be established later we find that the symptom is directly caused by this pathological condition. Treatment is accordingly simple and should be directed toward this local abnormality.

In the second class of cases the dysmenorrhoea is usually but one symptom of a more or less complex general condition. The pelvic organs may or may not be pathological. While any pathological condition present may have some casual significance, it is but secondary, and treatment directed toward it alone is irrational.

DYSMENORRHOEA CAUSED SOLELY BY LOCAL CONDITIONS.

The different conditions which in themselves are the most frequent causes of dysmenorrhoea are really much fewer in number than might at first be supposed. In the great majority of such cases it is due to one of three conditions, backward displacements of the uterus, pelvic inflammations, or myomata. In a study* of one thousand consecutive gynecological cases admitted to the wards of the Johns Hopkins Hospital it was found that backward displacements of the uterus and pelvic inflammatory disease were by far the most important, each condition being the etiological factor in more than one-third of all the cases of dysmenorrhoea caused by lesions of the pelvic organs. In one-tenth of all such cases the trouble was caused by myomata.

These three conditions together were the casual factors in 90 per cent of all the cases of secondary dysmenorrhoea in this series just mentioned. The causes in the remaining cases were represented by a large number of conditions, each one accounting for but a small percentage of the total number and therefore relatively unimportant.

Lesions of the ovary alone are not of much significance in the direct causation of dysmenorrhœa, despite the frequent disposition on the part of the laity to attribute all menstrual pains referred to the lower lateral regions of the abdomen to "diseased ovaries." Ovarian tumors and cysts in the majority of cases in this series were not accompanied by dysmenorrhoea. In but a very small proportion could an existing dysmenorrhoea be directly traced to the ovarian condition. Actual ovarian inflammation without more or less extensive involvement of other pelvic organs was not seen. As to the importance of an "ovarian dysmenorrhoea" caused by an abnormal thickening of the ovarian capsule the following quotation from Dr. H. A. Kelly is significant: "Ovarian dysmenorrhoea associated with a thickened capsule or a chronic oophoritis has not yet come under my observation."†

The relative frequency with which dysmenorrhoea appeared as a direct result in all cases of a given pathological condition was found to be as follows: 86 per cent of all cases of retro-displacement in nulliparae were associated with dysmenorrhoea,‡ 25 per cent of all cases of multiparae with retro-displacement suffered from it as a result of the condition; in 31 per cent of all the cases of pelvic inflammation the condition caused dysmenorrhoea; in the myoma cases the uterine condi-

*"Dysmenorrhoea as a Symptom of Abnormal Pelvic Conditions," Surg., Gyn. and Obst., May, 1907, pages 606-609.

†"Operative Gynecology," 2d Ed., Vol. I., p. 158.

‡It is pertinent to remark that as this study was done with histories it was impossible to make a satisfactory differentiation of the cases of backward displacement of the uterus associated with pelvic maldevelopment.

tion was responsible for this symptom in 20 per cent.

It is often difficult to decide in a given case of dysmenorrhoea whether or not some existing abnormal pelvic condition is actually responsible for the disease. When we discover, for example, that a woman who complains of dysmenorrhoea also has a chronic salpingitis *we are not justified* in assuming at once that the pelvic lesion is the cause of the dysmenorrhoea. When we find that after the appearance of some pathological condition dysmenorrhoea first occurred or a pre-existing dysmenorrhoea became much worse, then and only then are we justified in considering that the lesion is of etiological significance. Also when we find that a very large proporton of all cases suffering from a certain condition, the onset of which cannot be definitely determined, also suffer from dysmenorrhoea, then we can assume that the condition must here, too, be of importance as an etiological factor.

In many cases, acute pelvic inflammation, for example, or injuries received at labor, it is easy to find the date of onset of the trouble. Frequently it is most difficult, as in many cases of myomata or of backward displacements, or when for one reason or another a satisfactory history cannot be obtained. There will always remain, therefore, a certain number of cases in which we are not able to decide to what extent the existing pathological condition is responsible for the dysmenorrhoea. Skillful quizzing of the patient and careful study of the history obtained are necessary to reduce this class to a minimum.

DYSMENORRHOEA APPARENTLY INDEPENDENT OF LOCAL PELVIC CONDITIONS, AND CAUSED ENTIRELY OR IN GREAT PART BY SOME GENERAL EXTRA-GENITAL CONDITION.

This class is much more difficult to treat than the former one. It embraces a larger number of cases and has every gradation from the first painful periods of the immature, anaemic young girl to agonizing crisis of the half demented hysteric.

It is impossible to differentiate clinically a series of types whereby we can classify all possible forms of dysmenorrhoea coming under this general heading. It is also out of the question to provide a scientifically correct classification on etiological grounds, for, as stated above, of the immediate causes of dysmenorrhoea we have no actual knowledge. We must, therefore, devote ourselves to the study of those phenomena which are fairly constant in many of the cases and seem to stand in a certain etiological position as secondary and predisposing factors.

Careful study of a large number of these cases shows that certain conditions recur over and over again. The general physical condition of many of these patients is bad. Anaemia, chlorosis in young women and girls, malnutrition and "general poor health" are frequent among them. They have small frames, weak muscles and badly nourished tissues. Abdominal walls are thin, the visceral ligaments weak and organic ptoses occur as they attain adult life.

A general poor development is often manifested locally in a retarded or faulty development of the pelvic organs. The marriages of many of the extreme cases are often sterile, sometimes followed by frequent miscarriages, the developmental errors probably having some bearing in these instances. These errors are perhaps of importance in causing the delay in the establishment of menstrual functions which we sometimes see.

Many of these patients show a marked tendency to contract diseases of various sorts. "As delicate children," they ran the gauntlet of various disorders, never entirely well and strong. After puberty this same predisposition remains. Apparently their powers of resistance are so low that the tissues are unable to make a normal reaction in the presence of infection or injury. Even slight illnesses have a marked debilitating effect on many of them, either on account of the poor vital resistance, or because of a certain inherent neu-

rotic tendency which makes their subjective appreciation of any symptom exceedingly keen.

Perhaps the most important, and certainly often the most striking characteristic seen in many cases is a markedly unstable nervous system. Nerve tissue, as well as that of bones, muscles and organs, is bad. While intellectually they may be far above the average, yet there is absent a certain nervous equilibrium and poise so necessary for the requisite self-control of normal mental and physical life. Easily affected by external stimuli and suggestion, they are also at the mercy of every subjective impulse or idea. Markedly introspective, they often develop a keen appreciation of somatic stimuli which usually fall unnoticed into the subconsciousness of ordinary well-balanced individuals.

Naturally women of such high-strung, unstable, nervous temperaments easily fall a prey to neurasthenia and hysteria. Prone to illnesses, as we have remarked, they realize every subjective symptom most keenly and, on account of their introspective and apprehensive turn of mind, every pain and ache is unconsciously exaggerated. After an illness which in the normal person would be but slight we may see a most intractable neurasthenic condition develop.

Oftentimes the establishment of a dysmenorrhoeal habit is very definite and a consideration of some frequently associated features is instructive. In a certain number of cases dysmenorrhoea appears for the first time during the depression subsequent to long and debilitating illnesses, especially if they have occurred soon after puberty. In other cases it may follow certain changes in environment, when young girls are brought suddenly to live under bad hygienic conditions or take up a sedentary life to which they had not been accustomed. The dysmenorrhoea of the country girl who comes to live in the city is an example. Young girls who subject themselves to physical or mental strains too severe for either their minds or bodies are apt to suffer. Frequent illustrations are seen in young country school teachers or in young women who display more avidity than discretion in social affairs. In all such instances we find the dysmenorrhoea associated with more or less physical debility, malnutrition, retarded development, or less frequently neurasthenia.

It has already been mentioned that in some cases a faulty development of the pelvic organs is found. This condition is important enough to demand a certan detailed consideration. These developmental errors are found in the uterus, ovaries, and in a less degree in the vagina. When all of these organs are affected we have in an adult woman a small uterus of the infantile type with a small conical cervix and pinhole external os, short vagina, and long, narrow ovaries of the foetal type. All of the pelvic organs may be affected equally, in which instance it must be regarded as a case of retarded development, or the trouble may be limited to one organ, either the whole or a part of it being involved. Developmental errors of a part of the uterus may give us deformities or displacements of that organ. The pathologically anteflexed uterus is an example. The condition is due to a lack of development in the anterior wall of the uterus, thereby causing the organ to be flexed on itself. In the same way poor development of the posterior wall may give retro-displacements. In cases with such errors in the uterus we can frequently recognize faulty or retarded development of one or both ovaries.

These developmental errors of the pelvic organs, as stated above, must be regarded as significant of a more or less appreciable lack of normal development in the body as a whole. These women usually exhibit many of the physical and mental characteristics outlined in the first paragraph of this section. The dysmenorrhoea is probably ultimately dependent on the improper functioning of a poorly developed nervous system. Yet the local condition itself must play some part, apparently, in the immediate cause of the dysmenorrhoeal pains. The exact connection can be only a

matter of hypothesis, but it probably in some way depends upon faulty development of blood vessels and muscular tissue and upon faulty innervation of the parts.

The old theory that a mechanical obstruction to the flow of blood causes the pain has been offered to explain dysmenorrhoea in women with anteflexed uteri and many cases have been supposed to come under this classification. There is here a two-fold error. First, in the light of our present knowledge the mechanical theory should not now be accepted as a cause of dysmenorrhoea in more than an occasional isolated case. Second, we now know that pathological anteflexions are much more infrequently seen than was formerly supposed to be the case. A certain degree of anteflexion is the normal condition of the nulliparious uterus. Therefore many cases which were demonstrated as dysmenorrhoea due to an obstruction to the flow of blood caused by a kink in the cervical canal at the site of an anteflexion were either due to general causes or else depended to some extent on mal-development in case an actual pathological anteflexion did exist.

Dysmenorrhoea appears under so many conditions and with such frequency that naturally in but a small proportion of cases would all or even a great part of the phenomena described above be found associated in one patient. We must also recognize that a dysmenorrhoea may come under both of our preliminary classifications, inasmuch as while it may have begun with no pathological condition acting as a cause such a condition may be acquired later and the dysmenorrhoea greatly increased thereby. In some women the neurotic features may be very slight or only become evident after a very careful examination or extended acquaintance with the patient. There is also a certain proportion of women in whom none of the above characteristics can be found. They are well nourished, well developed and well balanced, apparently normal in every way except for their monthy recurring pains.

To what extent dysmenorrhoea is due to neurasthenia, mal-development, anaemia, or poor physical condition is not a question to be discussed here with any idea of arriving at a definite conclusion. We do believe, however, that in most cases this dysmenorrhoea is a local neurosis, dependent upon a general nervous instability, which may be either inherent in the patient or else developed by illness or a poor physical condition. Mal-development of the pelvic organs determines to some extent the local character of the neurosis. The uterine condition which directly causes the dysmenorrhoea may be one of many conditions or an association of several of them. It may be due to reflex muscular contractions of the circular muscles at the internal os or to a hypersensitiveness of the endometrium at this point. Another plausible theory is that it depends on the appreciation of uterine contractions of which the ordinary woman is unconscious. In the case of poorly developed uteri the pain may be caused by the detention of poorly developed blood vessels whose caliber is too small to receive the amount of blood forced on them at this time. Or it may be due to the resistance offered to the increased blood pressure by rigid undistensible uterine parenchyma. There are many other plausible theories to account for the immediate cause of the pain, but we shall not consider them here.

In considering a case of dysmenorrhoea as well as in any other form of pain we must always bear in mind that we have no physical measurement of pain. Our estimate of pain suffered is usually based in great part on the patient's statements. Had we some method of accurately estimating degrees of pain, we should find that many neurotic, hysterical women suffered no more pain at their periods than other more well balanced women endure without complaint as a matter of course. To the neurotic every twinge becomes a spasm of excruciating agony, according to her warped perceptions. In other cases, where the actual amount of pain suffered is greater, the dysmenorrhoea exerts a powerful depressing influence on the neurasthenia, the two condi-

tions forming a vicious circle and growing worse together.

TREATMENT.

A prerequisite to rational treatment is a recognition as fully as possible of the various casual factors in the case. This brings up the question of examination in young girls and unmarried women, who form a greater proportion of all cases of this trouble. Theoretically, of course, it should be done in every instance. Practically it is not always necessary. The improbability of acquired lesions being present is evident in many cases and in such an examination may very properly be deferred. Whenever any doubt exists it is better that the examination be made.

TREATMENT OF DYSMENORRHOEA DEPENDENT ON SOME PATHOLOGICAL CONDITION OF THE PELVIC ORGANS.

This, of course, resolves itself into treatment of the lesion at fault and it is not necessarily operative. If the lesion itself is not dangerous to life nor likely to become so, the question of operation is settled by the severity of the symptoms. For example, an uncomplicated retro-displacement which causes but slight symptoms is not an operative case under ordinary circumstances; and even when symptoms are marked we are often justified by the circumstances in exhausting local and non-operative measures before resorting to operation. In cases of retro-displacement in nulliparae it must be borne in mind that many such are actually cases of mal-development and treatment of the displacement alone has a good prognosis.

Dysmenorrhoea in these cases is usually but one of several symptoms caused by the lesion present. It occurs as the only symptom most frequently in backward displacements, less frequently in subacute pelvic inflammatory disease, and rarely in mayomata. In subacute pelvic inflammation operation is not indicated until after local and palliative treatment has failed. The extent of any operation done is determined by the usual rules followed in operations for pelvic inflammation. Double oophorectomy is not justifiable unless indicated on account of the extension of the diseased process, never on account of the dysmenorrhoea.

In myomata operation would rarely be done on account of dysmenorrhoea alone. As dysmenorrhoea is found much less frequently in subperitoneal myomata than in other varieties, it follows that hysterectomy would be more frequently performed than myomectomy. The indications, of course, being supplied by the myomatous condition and not by the dysmenorrhoea.

TREATMENT OF DYSMENORRHOEA NOT DEPENDENT ON PATHOLOGICAL CONDITIONS OF THE PELVIC ORGANS.

Symptomatic treatment of the monthly pains is of course necessary whenever the symptoms are severe. It is far more necessary that the underlying causes of the trouble be ferreted out if possible and that treatment be directed against them. In most cases the probable causes can be determined. Oftentimes these conditions may be relieved and the patient finally cured. In a certain number of cases, however, no underlying cause can be found and all methods of treatment may be unavailing to obtain a radical cure.

In considering the treatment of a case of this type attention must first be paid to the general condition of the patient. It is usually more or less bad. Anaemia and chlorosis must be rectified. Bad hygienic surroundings corrected and improper methods of living corrected. Sedentary lives with lack of fresh air, sunlight and outdoor exercise must be changed.

Mal-nutrition frequently needs attention and even more frequently the entire dietary of the patient needs supervision. Mental and physical strains must be relieved. In young working girls, school teachers, factory girls, shop girls, etc., rest for the body and nerves is often all that is needed to bring about a cure. Yet without this rest no amount of internal medication can achieve any permanent result.

Medicines and drugs should be used as

sparingly as possible and only when indicated. Many of these patients are of the neurasthenic type and every dose of medicine recalls to the patient's mind the fact that she is ill. For relief of the pains at the period I have no especial drugs to offer. Oftentimes absolute rest for mind and body for a few days before a period is due renders it entirely painless. If by such procedures a number of painless periods be obtained in succession and at the same time the patient's general health brought up to par the dysmenorrheal habit may be broken and the cure obtained without the use of any anodyne whatsoever.

Treatment by ovarian extracts has certainly seemed to be beneficial in some cases. The corpus luteum extract from the pig's ovary seems to be the best. This is especially indicated in those cases of imperfect development of the pelvic organs associated with scanty or infrequent menstruation.

Undoubtedly the best and most certain cure for the majority of these cases is "Nature's cure," i. e., the changes brought about in the pelvic organs by a normal pregnancy or a pregnancy which continues for a number of months and then terminates in miscarriage. By either of these two conditions the pelvic organs are stimulated, and faults in development are corrected. Also the circular muscle fibres and nerve filaments at the external os are stretched and developed.

OPERATIVE TREATMENT.

This type of dysmenorrhoea is very frequently treated by operations on the cervix. These procedures were originally based on the idea that dysmenorrhoea is caused by a mechanical obstruction to the flow of the menstrual blood. The intent of the operation being to remove this obstruction. The success of these procedures in many cases was formerly supposed to be a proof of the mechanical theory of dysmenorrhoea. The observations of many investigators have now shown us that the mechanical theory is applicable only in a comparatively small number of cases and a different explanation must be sought for the success of these procedures. It probably depends on many of the same factors which are of importance in the relief given by the stimulation of pregnancy, stretching, cutting, or divulsing the nerve filaments and the circular muscle fibres at the internal os. Dilation of the cervix, of course, represents in a small way some of the changes which take place at full term labor.

Of the many operative procedures done for this condition we shall consider only the dilation of the os, with or without curettage of the endometrium. This is probably the most widely used of any of these procedures and certainly gives as good results as any.

When used in selected cases this operation will give a good percentage of successful results. Used indiscriminately it will not only give no relief in many cases, but will also be positively injurious in others. It is not indicated in dysmenorrhoea of the first class, that caused directly by gross pathological lesions. Manifestly a dysmenorrhoea caused solely by a backward displacement would receive no lasting benefit from a curettage. Moreover, curettage for a dysmenorrhoea caused by a pelvic inflammation will often cause considerable injury, inasmuch as the pelvic inflammation is made worse by the operation.

While no hard and fast rule can be laid down to what cases of dsymenorrhoea not dependent directly on gross pathological lesions of the pelvic organs will be benefited by the operation, there are certain general principles which will give us the probable prognosis in a given case. Studies of a number of cases treated by dilation and curettage show the following facts:* The operation is more apt to give good results when the pains are sharp, spasmodic and cramplike in character than when they are dull, heavy and continuous. Also the results will be better in those cases in which the pains begin shortly before the

*Holden, "Dilatation and Curettage for Dysmenorrhoea, a Report of 95 Cases," American Medicine, Vol. X, No. 19, pp. 776, 781.

flow appears or at the time of flow and last but from a few hours to a day or two. When the pain comes on several days before the flow appears and lasts many days, possibly throughout the flow, much less benefit can be expected from operation.

The amount of benefit received even in selected cases varies. Likelihood of relief is less when mal-development of pelvic organs is present. Also unrelieved general mal-nutrition, anaemia and neurasthenia will often prevent a good result. These conditions should be relieved either before or after the operation.

I believe that in general from 60 per cent to 75 per cent of selected cases can be entirely cured or greatly relieved by this operation. In a certain number of cases the dysmenorrhoea will recur after a varying period. If on examination no gross pathological lesion is found to account for the recurrence a second curettage may be done. Frequently the relief from this will be permanent.

Dilation and curettage often secondarily relieve dysmenorrhoea inasmuch as in some cases of sterility associated with dysmenorrhoea the sterility seems to be relieved by the operation.

SUMMARY.

1. Dysmenorrhoea may be divided into two great classes. First, dysmenorrhoea associated with and apparently directly caused by some pathological condition of the pelvic organs. Second, dysmenorrhoea apparently independent of local pelvic conditions and caused entirely or in great part by general or extra-general conditions.

2. Pelvic inflammatory disease, backward displacements of the uterus, and myomata are responsible for 90 per cent of dysmenorrhoea caused directly by pathological pelvic conditions.

3. Other conditions than the three just mentioned are comparatively rare causes of dysmenorrhoea.

4. Dysmenorrheaa of the second class is of many types. Some general symptoms are more or less common to all cases. Anaemia, mal-nutrition, general poor development, and instability of the nervous system are frequent.

5. Many deformities or so-called displacements are local expressions of general mal-development, e. g., anteflexions and some retroflexions.

6. Treatment of class one is treatment of the lesion at fault. It is not necessarily operative and varies according to the degree of the lesion and severity of the symptoms. Double ovariotomy is never justifiable on account of dysmenorrhoea alone.

7. Treatment of class two is in great part general and hygienic. Absolute rest at time of the periods is preferable to drugs and the results are frequently as good. Treatment by corpus luteum extract is of advantage in selected cases.

8. Dilation and curettage offers good results in selected cases.

PATHOLOGY AND TREATMENT OF DISEASES OF WOMEN. By A. Martin and Ph. Jung, English Translation by Henry Scnenitz, M.D. Fourth Edition. Rebman & Co., Publishers, New York. Price, cloth, $5.00 net.

Martin and Jung's work on Gynecology has met an unwonted reception on the part of the medical profession in Europe, having exhausted the first three editions, and this, the fourth edition, translated from the German, is a splendidly arranged, tersely and concisely written volume of five hundred pages replete with fine illustrations. All the important gynecologic operations are graphically presented. The pathological history of each of the pelvic viscera is thoroughly reviewed and profusely illustrated from original slides containing sections of typical lesions.

The character and extent of the bibliographic references are indicative of the wide scope chosen by the authors in the consideration of every topic under discussion.

We believe that this volume will find a good welcome in America, and that it is valuable to our gynecological library. We heartily recommend it to all students of gynecological pathology as a most valuable single volume contribution to that subject.

PERSONAL OBSERVATIONS ON THE INTRAVENOUS METHOD OF ADMINISTERING SALVARSAN.*

By J. L. KIRBY-SMITH, M.D.,
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From the very beginning of the use of Salvarsan, better known as "606," Prof. Erlich strongly advocated the intravenous method of administration in his communications to the profession. At the time he presented the drug to us for use in the treatment of syphilis, his plea was for this method to be used exclusively, knowing that intravenous injections by those of experience was not entirely free from danger to the patient, not from the drug *per se*, but from faulty technique of the operator. He expressed himself as though he expected the drug to be used by those especially trained for such procedures, thereby minimizing the unpleasant or fatal results.

For a while in this country very few intravenous injections of Salvarsan were given, due mostly to reported dangers of this large dose of an unstable arsenical preparation, and to the complicated details of the original technique as was first given for this mode of administration. As a result the profession as a whole used the method of Alt and Wechselman (neutral suspension) and the "clear alkaline solution," also the "emulsion in divided doses," though a few workers cautiously used intravenous injections. After a few months of general use, the former methods have proven to be somewhat disappointing in their results, or at least to be very inferior to the intravenous method; especially was this true of the "neutral suspension method," as devised by Alt and Wechselman. At the present time all of the above methods have been practically superseded by the intravenous injections. From my experience with all three methods and from observing the clinical reports of other workers in the field of venereal disease, I think this change is fully warranted, and I shall try in this paper to bring before your attention the disadvantages of the subcutaneous and intramuscular methods, also the advantages and contra-indications for the intravenous administration, and try to show why the latter technique is superior to the former.

Those of you who have had occasion to use Salvarsan, and gave the drug by the subcutaneous or intramuscular routes, can testify to the pain and local reaction both at the time of the injection and at a later period; also as to the difficulties in the actual preparation of the drug for injection, especially so in the neutral suspension method for subcutaneous injection. Then, too, no doubt some have seen the unpleasant after-effects at the site of injection, i. e., persistent induration and tumefaction, at times necrosis and suppuration, and the resulting slow repairing ulcer, these sequelae sometimes following even after the most painstaking efforts at asepsis in the preparation of the drug and the patient for the injection, showing to what extent the tissue is irritated by the Salvarsan. I find from my notes on forty injections of Salvarsan by the subcutaneous and intramuscular methods, given in the early part of the past year, that 50 per cent were followed by unpleasant after-effects at the site of the injection, varying from simple induration to necrosis and suppuration. The first twelve cases were reported in a paper read before the Duval County Medical Society in March, 1911. Of these cases three were followed by necrosis and suppuration—two had painful indurated masses at the site of the injection, which later had to be dissected out—one three months after the injection and the other four months. Both of these cases were treated by the Alt and Wechselman method (the neutral suspension). The encysted mass that was removed when opened was found to

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

contain a yellowish like fluid very similar to the emulsion that was injected several months previous, and showed the presence of arsenic and no bacteria. In both of these cases there was primary lesion of syphilis and well developed secondaries, which promptly disappeared a few days after the injection. One of these five months later had recurrences of secondaries and was given another injection, intravenously, at the Johns Hopkins Hospital in Baltimore—the other had recurrences before the indurated mass was removed, with two intravenous injections of Salvarsan in the course of two weeks' time. The patient has now remained free from any recurrences or symptoms of syphilis for a year, and during that time two serological examinations made were negative.

In a November number of the New York Medical Journal, Dr. F. P. Hoover, of Jacksonville, in an article reporting "Ear Troubles Following 606," gives the history of two patients treated by me, with another case, making three in all, which he reports as probable ear conditions due to Salvarsan—two were otitis media, and the other some disturbance of the internal ear, a possible irritation of the auditory nerve. All of these cases had received subcutaneous injections of a neutral suspension. One of these had already been mentioned as having had a painful indurated mass at the site of the injection, which later, on account of the pain and discomfort complained of, was dissected out. In this case after an intravenous injection of Salvarsan the otitis media rapidly subsided and the patient's hearing became normal. The case of otitis media Dr. Hoover reports as slowly improving after a few weeks. This case case did not receive a second injection. In the case of the disturbance of the internal ear no appreciable effect has been seen in the patient's hearing even after two intravenous injections. It is now sixteen months since the patient first exhibited hearing disturbances. He is practically deaf in both ears. I might mention at this point that the patient only received a small dose of Salvarsan, not more than 6 grains. At the time of the injection the needle became plugged, and only about half of the suspension was injected, and the patient now has a hard encysted mass at the site of the injection. However, there was a rapid disappearance of a bilateral iritis and papulo-pustular syphiloderms. In this case, as in all three, the symptoms of ear troubles came on several weeks after the injection and there is ground for discussion in all three cases. Was the condition brought on by the Salvarsan or was it a syphilitic process? Certainly it is impossible to state definitely, but by the rapid improvement in the cases of otitis media after the second injection the evidence is in favor of the latter supposition, while in the case of the disturbance of the internal ear, in which no appreciable improvement followed the two injections, the condition no doubt was due to the Salvarsan either directly or indirectly, or to certain changes that the drug undergoes when given by the subcutaneous or intramuscular methods. At this point I will say a few words about the preparation of the patient for the treatment, and the simplified technique that is used at the present time for the administration of Salvarsan. As the title of this paper shows, I am presenting my own observations in the use of the drug, and such being the case, you will notice an absence of references to the report of other workers in the field of syphilology. I trust, though, that some of you present will be able to bear out with me from your own experiences with Salvarsan the remarks that I will make.

In every case before giving an intravenous injection of salvarsan, it is necessary to make a thorough physical examination of the patient, especially to ascertain if there is an existing nephritis or organic disease of the heart. If such should be found, the injection should only be given at the patient's own risk. Certainly there is a decided danger of fatal complications, even with the most skilled administration of the drug. Nevertheless, in some cases in which the presumptive evidence of

the diseased condition of the heart or kidneys is due to syphilis, the case will warrant the risk. During the past year I have had only three syphilitic patients whom I thought best not to treat by intravenous injections owing to organic diseases of the heart or kidney. One was an advanced case of Bright's disease, which originated before the luetic infection—the other two had valvular lesions of the heart. One of these cases was a man of 64 years with an initial lesion. All three of these patients did not care to take the risk of the treatment, so reliance had to be placed in mercurial treatment. I am in the habit of having patients report to my office for the injection without having had anything to eat for several hours, also having ordered a cathartic beforehand. I have found that by this there will be less immediate unpleasant after-effects from the Salvarsan.

When first using the intravenous method of injections a number of difficulties were met, both as to the working of the apparatus, and the preparation of the drug for injection. but more particularly so in the actual administration of the drug. Like everything else in medicine and surgery, one has to learn from experience, more particularly so from one's own experience. Certainly this applies to my own case. For a while I used an apparatus devised by Thessico, which consisted of a rather complicated pumping arrangement. After two injections, I found this affair to be very unnecessary. The next procedure was the using of two infusion bottles, one for the salt and the other for the Salvarsan solution tubes from these connected to a three-way cock, and the fluid allowed to flow through the needle by gravity. This proved to be very unsatisfactory. At the present time I use only one bottle, and instead of allowing for gravity, use a rubber hand bulb attached to the mouth of the bottle to increase the pressure so that the fluid will flow in more rapidly. The question of dissecting up the vein for injection after four trials was given up as being entirely unnecessary. In the preparation of the solution for injection too much care cannot be taken. I am sure that success in the giving of Salvarsan intravenously has been due to the careful preparation of the solution, using only distilled sterile water for the salt solution, in every case making a fresh salt solution at the time of the injection, always filtering and boiling. By so doing you will always be able to get the Salvarsan into a clear solution, 6 per cent salt solution used. Then, too, you must have a hot solution for the dissolving of the Salvarsan. This is very essential. Having a five-foot rubber tube connected with the infusion bottle and the needle, I have found that the solution should be 110-115 F.; with the room temperature at about 75 F., the temperature for the solution as it enters the vein will be around 100 F. Should the thermometer at the needle register below this, hot salt solution should be added to the infusion bottle. Any solution below 100 F. temperature increases the unpleasant immediate after-effect, vomiting, chill and fever. Another essential to the proper preparation of Salvarsan solution for intravenous injection is the sodium hydroxide solution. Always have this freshly prepared 15 per cent solution, distilled water used for the solution filtered and boiled.

I have not kept a record of the number of doses of Salvarsan I have had to throw aside through some error in the making of the solution, or to some peculiar characteristic of the drug itself. Certainly the number will reach twenty-five, mostly happening in the first few months of using the drug, but with careful attention to the details of the preparation of the solution, I rarely now meet with any difficulties in making a clear solution. The technique of introducing the needle into the vein is a very simple one, but in doing so, even with considerable experience, one often meets with difficulties. First of all it is absolutely essential to have a sharp needle, one that is free from any rust or corrosion. If such is not the case, the chances are that you will have trouble penetrating the vein.

As to the amount of Salvarsan for each

injection the dose was varied from 4 to 15 grains, depending on the age, sex and severity of the infection; as an average in the 300 injections 10 grains were used. The amount of Salvarsan solution used in the injection varied from 300 to 100 cc, depending on the condition of the patient's heart and circulation. I am in the habit of ascertaining the blood pressure of the patient before treatment. Should this be below 100 or above 140 the amount of salt solution would be increased or reduced accordingly.

No mention has as yet been made of the constitutional reactions following an intravenous injection of Salvarsan. This furnishes one with material for considerable reflection. First might be considered the immediate symptoms, those that follow from a few minutes to several hours after the treatment, the most prominent of which are the chill, usually preceded by nausea or vomiting, headache, occasionally intestinal cramps with diarrhoea and in most cases elevation of temperature, often as much as 104 degrees. The later symptoms that occur after the first day are slight vertigo, headache, at times constipation, a general malaise, which occasionally persists for several days. Too much attention cannot be given to daily examination of the patient's urine for albumin, as it is on the kidneys that the work of excretion of this arsenical preparation is placed. In all cases the urine becomes high colored and very frequently an albuminuria is noticed, which may persist for weeks. It is very important to have the patient on very light diet for several days following the injection; the frequent drinking of water and saline laxatives add to the rapidity of elimination. Arsenic is present in the urine a few hours after the injection and continues present for several days.

In respect to the constitutional reactions taken as a whole, I have found that they largely depend on the severity of the infection. A patient with well developed secondaries will in every case show marked reactions, i. e., chill, nausea, at times vomiting, while another with no active symptoms of the disease, will possibly escape any unpleasant after-effects. This I have observed from the very first in the use of Salvarsan.

For months hardly an issue of a medical journal has been free from reports on Salvarsan; hundreds, even thousands, of monographs have appeared dealing with all phases of this wonderful drug. Since Salvarsan has been used by the profession for over a year, one can now note more balanced or absence of hysterical reports on the effects of Salvarsan. In fact, the remedy is an accepted specific for syphilis, and by the gradual perfection of the technique of administration one hears very little of the dangers of the use of the drug. To some extent this is due to the fact that in every community there is some one who has given more or less study to the administration of the drug, and accordingly has reached a certain degree of perfection in that line of work, thereby reducing to the minimum the supposed to be dangers of the drug. This is, as I mentioned at the beginning of this report, what Prof. Ehrlich desired. At the present day intravenous injections of Salvarsan are given in one's office, the patient allowed to go home, and within twenty-four to thirty-six hours permitted to return to his work, this, though, depending on the severity of the infection. During the past sixteen months I have given 300 intravenous injections of Salvarsan to 133 syphilitic patients, as follows: Sixty-seven given two injections, 50 three injections, and 16 one injection each. Of this number 13 had primary lesions only, 60 with secondary, 20 tertiary or late secondary syphiloderns, 4 lesions of the nervous system, 30 with no active symptom but positive Wasserman, 4 no active symptoms and negative serological report though positive history of former infection and vigorous treatment with mercury for several years, 2 hereditary syphilis. Of the 133 syphilitic patients treated with Salvarsan, 85 were given mercury between injections and 28 had

already been under mercurial treatment for periods varying from 2 to 6 or more years; the remaining 20 received only Salvarsan injections; of these 12 were given three intravenous injections in three months, 8 two injections in two weeks' time. Those of you who have had much experience with venereal patients, especially syphilitics, appreciate the difficulties in keeping up with your patient; particularly is this true when you have relieved him of the immediate discomfort of his disease and you may have been so unwise as to have allowed him some credit. By these irregularities it has made it impossible to follow the results in forty patients. In all I have had only six patients to return with recurrences; all of these cases had only received one injection and had had no mercurial treatment, five had been given treatment in the primary stages of the infection and the other had well developed secondaries. In late secondary or tertiary ulcerations I have not had a single recurrence of the condition after two intravenous injections; true, most of the patients were given a vigorous mercurial treatment as well. Three cases of locomotor ataxia are included under syphilis of the nervous system; two were given two intravenous injections without any appreciable effect on the disease, both showing marked improvement in their general health. Both of these cases were well advanced. The third case of tabes treated was markedly improved by Salvarsan; the disease was of only a few months' duration.

Before passing on to a general summary of the subject of Salvarsan, a few words as to reported dangers, or reported accidents following the use of the drug: Deafness, blindness, Bright's disease and even death are some of the important sequelae that a few practitioners tell their patients will follow treatment by "606." I know of only one death reported in Florida from the use of Salvarsan, and in this case I would be willing to wager my license that the death was not due to the drug *per se*, as I understand the patient had a cerebral tumor of probably syphilitic origin, and no doubt there were other complications which made the treatment contraindicated. I have had one case of nephritis following an attempted intravenous injection; the patient in question was referred to me for treatment for tertiary syphilis. At the time I had given two intravenous injections, and the technique used was very crude, the apparatus used being the "pumping arrangement." Hardly two grains of Salvarsan were given. As the physician referring the patient vouched for the physical condition, no urinalysis was made before the injection was given, hence it is more than probable that the kidneys were already involved. Be it as it may, immediately after the treatment, or within twenty-four hours, the patient exhibited symptoms of nephritis, the urinalysis showed a paranchymatous nephritis.

The advantages from treatment of syphilis by intravenous injections of Salvarsan are many. Certainly the wonderful results that we get completely overshadow that from the old treatment. The patient feels the effect of the medicine within twenty-four hours, active lesions disappear in a few days, danger of transmission of the infection to others that he might come in contact with is promptly overcome. True, you can get this by mercurial treatment, but at the expense of time and great inconvenience to the patient, and no matter how carefully you may watch your patient, there is a constant danger of producing mercurialism. From my observation in the treatment of luetic patients there is not the slightest room for comparison of the two drugs in the cure of syphilis, and there is not the slightest doubt in my mind that Salvarsan is the specific for the infection, the result not obtained by one or two injections, but several during the first year of the infection. At the present day the accepted plan of treatment is to follow out the above, with the additional mercurial treatment betwen injections of Salvarsan, either giving injection of mercury or using inunctions. Too much stress cannot be laid on the

importance of serological examination after the completion of the treatment, and at intervals of six months for two years.

Before closing, I wish to express my appreciation to the physicians throughout the State, and more especially of Duval County, for the courtesy of referring to me syphiltic patients, which has made this report possible.

PAIN IN THE ABDOMEN AND ITS SIGNIFICANCE.*

By P. C. PERRY, M.D.,
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It is impossible for the writer to take up all of the diagnostic points in connection with this subject, due to the length of same. To clearly understand why pain is present in the abdomen, it is but right that we should consider the nerve supply of the abdomen and its viscera, as of the first consideration. The principal nerve supplies are the epigastric or solar plexus, the hypogastric plexus, and the pelvic or sacral plexus.

The epigastric or solar plexus supplies all the viscera in the abdominal cavity. It consists of a great network of nerves and ganglia, situated behind the pancreas and the lesser peritioneal cavity and in front of the aorta and crura of the diaphragm. It surrounds the coeliac axis and root of the mesenteric artery, extending downward as low as the pancreas and outward to the supraenal capsules. This plexus and the ganglia connected with it, receive the great, the small and the least splanchnic nerves of both sides, and some filaments from the right pneumogastric nerve. It distributes filaments which accompany, under the use of plexuses, all the branches from the front of the abdominal aorta.

Of the ganglia of which the solar plexus is partly composed, the principal are the two semilunar ganglia, which are situated one on each side of the plexus and are the largest ganglia in the body.

From the epigastric or solar plexus, are derived the following: the phrenic; the suprarenal, the renal, the spermatic, the superior mesenteric, the aortic, and the coeliac. The coeliac plexus has three divisions; the gastric, the splenic and the hepatic.

The hypogastric plexus supplies the viscera of the pelvic cavity. It is situated in front of the promontory of the sacrum, between the two common iliac arteries, and is formed by the union of numerous filaments, which descend on each side from the abdominal aortic plexus and from the lumbar ganglia. This plexus contains no evident ganglia. It bifurcates below into two lateral portions, which form the pelvic plexuses.

The pelvic plexus, or sacral plexus, sometimes called the inferior hypogastric, supplies the viscera of the pelvic cavity and is situated at the side of the rectum in the male and at the side of the rectum and vagina in the female. It is formed by a continuation of the hypogastric plexus, by branches from the second, third and fourth sacral nerves, and by a few filaments from the first two sacral ganglia. At the point of junction of these nerves small ganglia are found. From this plexus numerous branches are distributed to all the viscera of the pelvis. They accompany the branches of the internal iliac artery.

I will first consider the pathological conditions that are present in the abdomen and that are the cause for 80 per cent or more, of the pain within the abdomen. Of these, ulcers of the stomach; ulcers of the abdomen or the pyloric end; inflammation of the gall bladder and of the duct of the liver; together with

*Read before the Florida Medical Association, at Tampa, May 8-10, 1912.

adhesions; appendicitis; and pelvic inflammation, associated with adhesions within the pelvic cavity. Of the remaining 20 per cent, or less, of cause for pain in the abdomen may be mentioned such conditions as inflammation of the pancreas; degenerative changes in the spleen; general peritonitis; obstructions within the intestinal tract; tuberculosis of the ilium and the general peritoneal cavity; and obstructions or carcinomatous growths within any part of the intestinal tract.

THE SIGNIFICANCE OF PAIN AND ITS DIAGNOSTIC AND WHAT IS MEANT BY REFERRED PAIN.

Pain is the most potent factor when you have been called to see your patient. It is the first symptom mentioned: its location in a certain percentage of cases, will cause you to arrive at proper diagnosis; but, as a general rule, I may state that pain is a negligible factor as to the location of the disease, but is of the greatest significance in the way of indicating to your mind that there is a mechanical condition within the abdomen that calls for a great deal of thought. Primarily, it indicates that there are changes that have taken place within some part of the viscera within the abdomen that have caused adhesions, contraction, or impairment of the function of some particular organ, that, as the result of the inflammatory process, whether it is the result of accident or trauma, or from bacterial infection, always produces degenerative changes which will, in a short time, cause pain as the result of such changes.

Referred pain is very difficult to understand unless one is thoroughly familiar with the nerve supply of the abdomen and its viscera, and I shall give simply an example of referred pain. In an inflamed appendix, either acute or chronic, you frequently have nausea, vomiting, and pain over the ensiform cartilage, or just to the right of same. This is due to the pyloro-spasm, or contraction of the pyloric end of the stomach, as the result of adhesion and the acute inflammatory process of the appendix.

There are a certain number of well defined and localized points of pain within the abdomen and they have more or less to do with arriving at the proper diagnosis. As an example, pain over the ensiform cartilage, to the right or left, pain over the right hypogastric region situated at the ninth rib or intercostal space, pain around the umbilicus, pain within the right iliac fossa, and pain radiating down through the thigh and to the head of the penis. As to the pain situated over the ensiform cartilage, or either side, this is usually the result of duodenal or peptic ulcers, or to a pyloric contraction, or the result of other inflammatory processes lower down within the intestinal tract. But when one finds a pain that is more persistent, boring always present, associated with gas formation and that is relieved by the taking of food for a period of two to four hours, and that exists for a number of days after the inflammation has subsided, it is safe to state that this is a pain from a duodenal ulcer. Whereas, pain that is acute in character and uncertain as to outset, with same situated in mid-epigastrium, pain coming at irregularities, is independent of and not eased by food, nor often traced to it as a cause, with fever and chills and free perspiration, and pain radiating over right side and under the shoulder, and fully as characteristic as is the onset is the rapid disappearance, even at the height of the pain, with almost immediate return to normal health, it may be reasonably considered that you are dealing with a case of gallstone without complications.

Pain situated in the right iliac fossa and cases of referred pain around the umbilicus may be said to be pathognomonic of an acute or chronic inflammation of the appendix and is often associated with painful conditions of the ovary on the right side as the result of adhesion between the ovary and the appendix, or the broad ligament.

Pain that is situated in either side, that changes position from the twelfth rib around the abdomen by the crest of the ilium, that continues down the inner side of the thigh and

to the head of the penis and scrotum, is often mistaken for an acute appendix when situated on the right side is almost pathognomonic of stone in the kidney or in the ureter.

I could continue with the other painful points, but this is a fair illustration and shows how important it is to lay great stress on the painful areas.

DIAGNOSIS.

Of the greatest importance in making your diagnosis is a carefully and accurately written history of the case of the individual from his earliest recollection to the time of examination, together with a carefully written family history. Of the other methods employed, of greatest importance may be mentioned the examination, both chemically and microscopically, of the stomach's contents; the urine; the feces; differential blood count; examination by inspection of the abdomen; palpation and percussion; the examination of the rectum with the proctoscope; of the bladder by the cystoscope; by making use of the X-Ray and Bismuth emulsions; taking the blood pressure, and such other means as may be employed to perfect your diagnosis.

By examining the stomach's contents you may find free blood, the absence of free hydrochloric acid, the presence of an excess of lactic acid, which would indicate to your mind the question of malignant growth of duodenal ulcer.

By differential blood count it is possible for you to arrive at the conclusion as to whether or not the patient is suffering from a tubercular, or an acute inflammatory, or a malignant disease.

By examination of the feces you can determine the presence of occult blood; the presence of intestinal parasites, such as the aemoeba coli. By the use of the proctoscope you can determine the prescence or absence of ulcers, hemorrhoids, or malignant growth. By the use of the cystoscope you can examine the bladder walls, the openings of the uterus, passing, if necessary, a catheter in the pelvis of kidney, insuring a perfect specimen of urine for microscopical examination for a specific infection, or in this manner meet a stone that prevents the ureter from performing its usual function.

By using bismuth emulsions and the X-Ray, you can outline the size and shape of the stomach; whether it empties itself in proper time, which will give you a clear idea as to the presence of pyloric contraction, and from the end of the stomach the bismuth may be traced through the entire length of the intestinal tract and demonstrate the presence or absence of any obstructions, or displaced, or distended viscera.

In fact, one should be very careful to employ every method that will aid to a diagnosis, and finally, when it is impossible to arrive at the proper conclusion, the safest aid to a diagnosis is an exploratory laparotomy. In doing this it is possible for you to definitely locate the pathological condition, remove same for microscopic examination, and determine as to the best method of treatment that should be pursued in perfecting a cure, and in this manner, either inspect or palpate every organ and portion of the abdominal cavity.

TREATMENT.

There are just two kinds of treatment in the acute stage—the rational and the irrational. Of the rational form of treatment, when the patient is first seen with pain in the abdomen, nausea and vomiting, and temperature, he should be placed in bed with perfect rest, ice applied to the abdomen in the form of ice bags, take away all food, not even permitting him to have water to drink, allow him to remain under this treatment for twenty-four hours, or longer, until in your mind you are satisfied that the inflammatory process has subsided. If it is a question of an acute appendix, the advice of Oschner should be followed, viz:—an operation within the first twenty-four hours; if not, wait for an interval operation.

Of the irrational forms of treatment, all of the same should be condemned; but that which should be condemned with more force than

any other is the giving of cathartics and the administration of an opiate. In giving a cathartic, the pain is materially exaggerated, so that in despair the practitioner is forced to give an opiate. By the administration of an opiate he conceals all of the valuable symptoms that would lead to a proper diagnosing when the surgeon is called later on to see the case. Therefore, in the strongest way I would admonish each and every practitioner to refrain from giving cathartics of any form, or to the administration of an opiate, when it is so well recognized that by total abstinence of food, ice to the abdomen, and time, it is possible to do much more for the individual patient than by the giving of medicine. If this course will be pursued systematically in ten cases by any practitioner of medicine, I am satisfied that in the end he would never attempt medication in this form or class of cases again.

TREATMENT OF CHRONIC CASES.

When finally these cases have become chronic, with all forms of indigestion; dyspepsia; constipation or obstipation; auto-intoxication; jaundice; loss of weight; melancholia, and the thousands of other symptoms that are present; when they have taken gallons of pepsin and other digestive ferments; bile salts; bicarbonate of soda, alcohol and the many combinations of tonics, together with every known combination of laxatives and cathartics, and after consulting all of the eminent quacks, from those that feed them on sawdust, squirrel food and hay, and then have gone to the various spas throughout Europe and America, they are finally brought to the surgeon, in despair and with fear and trembling.

Modern literature on this subject, together with the tabulations of cases and histories, show that 75 per cent or more of the carcinomatous conditions are the result of the neglected cases of gastric or duodenal ulcers, that fail to have the proper advice given them by the general practitioner. Therefore, I beg you of the profession in Florida to give your people more consideration, a better chance for health and life, and use the surgeon "as the last resort but not a late resort."

As an illustration of the combined rational and irrational form of treatment, I will cite the following case: E. S., — age 28; occupation salesman; mother and father living; two brothers and sisters living, none dead; had the usual diseases of childhood; typhoid fever six years ago; constipation for the past two years, not severe. Present illness—After partaking of a hearty supper went to bed and asleep, aroused by pain in the abdomen about twelve o'clock; growing worse in an hour and so severe that a physician was called, who gave him a quarter of a grain of morphine and ordered one ounce of castor oil given at 7 a.m. After taking the opiate he was drowsy for two or three hours, but conscious of pain all the time. At seven o'clock a.m., took castor oil and two hours after this an enema, with little or no relief. Physician again called, who ordered hot applications to the abdomen, liquid diet and gave an anodyne mixture. Very shortly after this nausea and vomiting started and he was unable to retain anything. Physician again called, gave morphine by hypo.; temperature 102 3-5, pulse 120, abdomen distended and very painful all over. Condition remained unchanged for twenty-four hours, at the end of which time a diagnosis of acute appendicitis was made and advised to have an immediate operation. I was called and declined to operate, but advised placing patient in Fowler position, discontinuing everything by mouth, and ice bags to the abdomen. This was 5 p.m., or sixty-five hours after the patient was taken ill. Temperature 103 2-5, pulse 124, abdomen distended uniformly, painful all over. My visit the next morning showed temperature 100 3-5, pulse 102, very good night, sleep and very little pain. My next visit at 5 p. m., temperature 99 2-5, pulse 96. The next day, temperature normal, pulse normal, painful part in the right iliac fossa, but no pain within the abdomen. The same treatment was continued for five days when the patient was given small drinks of water and in forty-eight hours

thereafter was put on a soft diet, which he continued with no interval operation, and perfect recovery.

There are many failures associated with the treatment of pain in the abdomen and the pathological conditions that are found there. The reasons for such failures will be discussed at this time.

Medical treatment, in but a limited number of cases, yields nothing and has for value only two points: making the patent medicine vender independently rich off of the poor suffering individual, and bringing the family doctor into disrepute within individual families for such failures, when finally the case is referred to the surgeon, after the gross diagnostic points are so apparent that it is impossible for any one to fail to make the diagnosis.

After failure to make proper and early diagnosis, the surgeon is confronted by Jackson's veil; Lane's kink; adhesions in and about the gall bladder; old or latent adhesions, the result of perforative duodenal ulcers, and carcinomatous conditions. But that is a mechanical condition and has had to be met by the average surgeon and he takes all the blame for failure in making permanent cures, sharing more of the responsibility with the public, and taking more of the blame for the failure in these cases than the man who is primarily responsible for it, viz:—the family practitioner. Therefore, I urge urgently that an early diagnosis be the routine and that the case be referred to the surgeon or operated on by the idividual doctor, rather than allowing the complications to arise that will necessarily follow, calling for great dissection, great mutilation, and poor results to the patient and greater discredit to the profession.

It is not my desire that I should impress the medical men that each and every case of pain in the abdomen calls for operative procedure, but I am talking of those cases that should be diagnosed early, that should come under proper care and that should not be allowed to continue for years without the thought of arriving at a definite conclusion. There are other things that produce pain in the abdomen, of course, besides those referred to. This class of cases would have to be considered under another heading.

CONCLUSIONS.

1. Pain is the first symptom met when you are called, and is a forerunner of a dangerous condition if passed by lightly.

2. That the location of pain does not always indicate where the trouble is situated.

3. That acute pain calls for a rational treatment and not for cathartics, feeding, and opiates; but, as a symptom, it is of greatest value and if it could speak for you, it would beg for early and proper diagnosis, rather than for relief.

4. That by disregarding same you make it possible for the quack, the osteopath, the neuropath, and other quacks, together with the patent medicine man, and finally the undertaker, to amass an independent fortune, live in mansions, ride in automobiles, and in the latter years of their lives pass you by, and refer to you as a failure, but their most valuable asset.

SURGERY OF THE BRAIN AND SPINAL CORD.

By Prof. Fedor Krause, M.D., English Adaptation by Dr. Max Thorek. Vol. II. Rebman Company, Publishers, New York. Price, net, $7.00.

This English translation of the second volume of Surgery of the Brain and Spinal Cord presents the views of Prof. Fedor Krause based on his personal experiences in dealing with modern surgery of epilepsy, Jacksonian epilepsy, general genuine epilepsy, traumatic and reflex epilepsy, neoplasmata of the various portions of the brain, the posterior fossa of the skull. A considerable portion of the treatise deals with symptomatology. The entire work is beautifully illustrated by tri-color plates, photographs and pencil sketches.

The name of Fedor Krause occupies a position in surgery of the brain that promises a hearty reception for this work by all surgeons and neurologists. No similar work on this subject has been published so intimately presenting the author's views based on personal observation.

THE ORTHOPEDIC TREATMENT OF INFANTILE PARALYSIS.*

By WILLIS C. CAMPBELL, M.D.,
Memphis, Tenn.

I did not expect to be called upon to take part in this symposium, and was only requested to do so at the last minute.

I regard the orthopedic treatment of infantile paralysis as very important. Paralysis, as you have been told, occurs after the fever, and the extent of the paralysis may vary from no paralysis at all, or a very slight weakness (the so-called abortive type), to total paralysis of all four extremities. But the lower extremities are more often affected. Usually it begins as a paralysis of both lower extremities. One recovers more use than the other. One frequently recovers good use, while the other remains more or less disabled.

The orthopedic treatment in my opinion should be begun just as soon as the diagnosis is made. According to Lange, of Munich, who has done much work along orthopedic lines for the relief of this condition, a plaster jacket should be applied at once. That is a little too severe for these patients, but I do believe in absolute quietude and think the spine should be immobilized. I do not see very many of these acute cases. I have had some recently. When I see them, it is usually years later, or weeks later, but in those cases I have seen early I always use a gas pipe frame, the ordinary Bradford frame which is used in spinal conditions. It is simply a rectangular gas pipe frame, the patient being supported on the frame so that the spine will not sag and move. Much pain is due to movement which is caused by jarring in the room or by movement of the bed. In these cases the cord is hyperexcitable, and there is a considerable amount of nervous symptoms. The pain is sometimes alleviated by placing the patient in a tub of hot water. The mechanical treatment is directed along the line of prevention of deformity. This I regard as one of the most important prophylactic measures in the field of medicine. There is nothing probably that will give us better results in these cases than the early treatment of the deformed condition, or rather the prevention of the deformity. I have seen contraction of the tendo Achilles very early in quite a number of cases, that is, a beginning deformity known as equinus. The lower extremities are the most important members we have to deal with. The ankles and feet probably give the largest percentage of deformities depending, of course, on the parts paralyzed.

I saw a case the other day at the end of seven weeks from onset in which there was marked deformity. In all these cases deformity can be prevented by simple measures, and it is the duty of the general practitioner to resort to these measures, because the orthopedist will very rarely see these cases in the early stage, as they are rarely brought to him until there is deformity. These cases should be supported by any sort of simple splint. I use a plaster cast because the patient cannot take that off, and others cannot take it off without your knowledge. Any sort of simple splint, for instance, that will hold the foot at right angles, will answer the purpose. The joint should be held in the anatomical position. Take, for instance, paralysis of the anterior group of the leg. The posterior group remaining active will contract and give an equinus very early. This will not only cause deformity from the loss of muscle balance, but also overstretching of these paralyzed muscles. It will cause the muscles on the anterior group of the leg that have been paralyzed to overstretch, consequently what little opportunity they have of regaining power is practically

*Read before the Section on Surgery of the Southern Medical Association, Hattiesburg, Miss., Nov 10-12, 1911.

lost. An overstretched muscle has very little chance of regenerating. I think by far more important than any other treatment is to keep the muscles in such a position that when they do regain their power, or should they regain power, they will be able to act. The same illustration applies to the knee or other parts. I lengthened the tendo Achilles several months ago in a child with marked rigid equinus, who walked on the ball of the foot and had no power in the anterior group of muscles. After one week, which was the first time I examined the case after operation, she was able with the anterior muscles to raise the foot to right angles, showing if the foot had been kept in proper relation to the parts, there would not have been deformity, and there would have been good muscular action through the years she was a cripple.

The treatment by massage and electricity may be used after the nervous stage, and doubtless does have some value, but massage and electricity, unless combined with orthopedic measures, cannot be expected to affect overstretched muscles.

We divide the orthopedic treatment into the non-operative and operative. The non-operative treatment consists mostly of the application of braces. I have had a great many patients come to me whose mothers would say, "Doctor, my child has worn braces and they were of no value." The brace may have been a poorly fitting brace, or too heavy, but a brace should hold the parts in the best anatomical position, keeping the joints from becoming distorted and the muscles overstretched. These patients should use these braces continuously just as soon as they are able to get up and move about.

DISCUSSION.

Dr. Gessner, New Orleans, La.—I do not know enough about these matters to discuss them technically, but it is a great pity that many a child grows up with a crippled foot and the parents tell you the doctor who first saw it said, "Never mind; the child will outgrow it." I think we should not be too gentle with the doctor who does that. A great deal of the negligence is due to the doctor, and I think we cannot be too severe or too sharp in our criticism when children are allowed to grow up in a crippled condition because of the doctor's negligence.

Dr. Hatch, New Orleans, La.—I think that Dr. Gessner has hit the nail on the head in his remarks, and that is to say that the great trouble with most of these cases is that the attending physician tells the patient he is going to outgrow the troubles from which he is suffering.

This is where the harm is done, for when they are brought to the orthopedic man they will often refuse the operation that is needed on account of the remarks of the family doctor, and it is often impossible to make them see the reason for any operation.

I have many cases that I never see again after I have advised slight operations, unless the deformity is very bad they let it go, and the parents will urge you to treat the child without operation, in spite of the fact that you show them that such methods would not accomplish results. It will take a long time to place orthopedics on a par with the other special branches; in other words, we must educate the family doctor as well as the people to the great advantages that are to be gained from simple orthopedic measures.

Dr. Campbell (closing)—Gentlemen, I want to thank you for your very liberal discussion. With regard to what Dr. Hatch tells us it is very true in a good many respects. I have had a good many of those cases recently, and think that infantile paralysis must be on the increase in our community and surrounding country. I have had within two or three weeks several cases of acute infantile paralysis. I think I have had four cases recently, to be accurate, that were brought to me; some of them with slight deformities and some of them the deformity had not begun. I have not found it hard to get the mother's and the parent's co-operation unless they are of a very ignorant type. I tell them when they come to my office that the treatment of this case will take at least two years, three years, or one year, or whatever time the individual case may require, and I tell them this: That I do not want the case unless they are going to abide by what I say for that length of time, and I try to impress the fact on them that unless they are going to agree to have their child properly treated, I don't want to take the case. Of course, you do find cases that adopt the treatment and break the rule, but with most of the cases, I must say, I have been very fortunate in having them continue the treatment right along.

"The fitting apparatus," of course, I could not take that up in a short paper, but I mentioned the case of the school teacher who had been sent to a store for a brace, which was a most absurd affair. I have seen many others just as unsuitable. They come to me wearing braces with joints at the ankle, allowing "drop-foot"—when the patients have "drop foot." What result can we expect from a brace with an ankle joint moving in all directions, when the main object of any brace treatment is to correct and keep corrected any deformity that may occur (A number of photographs of cases were hung, to which the doctor referred in the course of his paper.)

In the case of this boy. He had been fitted with

a brace—which was most inaccurate, only extending to here (indicating). Had he been properly treated by light-fitting braces early in life, he would never have had a dislocated hip—could not have had the other deformity you see here—it would have been impossible.

Dr. Henderson asked me a question regarding the treatment of congenital dislocation of the hip. It is a hard question to answer, as there are so many factors influencing the treatment of each individual case. Double and unilateral cases, of course, differ. According to the statistics, there are about 75 per cent of cures and about 15 more per cent that you may improve without curing, and a very small percentage of cases that result disastrously—not disastrously, but are not improved.

Of course the operation is done purely by bloodless methods, or manipulation, and putting the joint in place. After the operation a cast should be applied in an abducted position with flexion and external rotation. In double cases, both limbs are put out in the so-called frog position. There are several positions that might be used. But we are not going into that.

The child is kept in this at least three months (showing photograph). At three or four years of age I would keep them in the cast about six months Older children I would begin to bring the leg down very much earlier, because the contraction of the muscles and the contraction of the tissue in older individuals is liable to be more permanent, and you get the hip in a position that cannot be moved, but it is, of course, a matter of judgment.

Apparatus is used for this purpose; it may be satisfactory; I have never used it, because I was trained to use casts, and have always used casts, and I find casts more satisfactory where they can be used in the treatment in this condition, because the people cannot get at the joint—they cannot touch the case, and if they do, you are going to know it.

The after treatment varies from one to two years—exercises, massage and other stimulative measures are, of course, of value.

URETERAL CALCULI.

By WILL F. CLARY, M.D.,
Memphis, Tenn.

Stones situated in the ureter are foreign bodies to that channel. They have been formed within the kidney, or pelvis of the kidney, and have rolled down and entered the ureter, lodging at a constricted portion or retained by muscular spasm.

The variety of symptoms presented may be very confusing, and most careful methods are required for a correct diagnosis. For a long period of time, before the calculus has entered the lumen of the ureter, there may have been symptoms existing of an indefinite character with occasional attacks of colic, or the entrance of the stone into the ureter may be the first announcement of the preexisting renal calculus. In other words, there are two classes of these stones. One with a renal history, the other making history only during its presence in the ureter.

There are some notable exceptions, for stones have formed in the kidneys and passed without producing symptoms. But exceptions only prove the rule that stones grow in importance and produce severe symptoms as they approach or enter the ureters. The symptoms may be of the classical type and the diagnosis easily made. However, with colicky pain in lumbar region, radiating to external genitals, with blood, or pus, or both, in the urine, and with frequent painful urinations, systemic depression, constipation and, sometimes, excessive tympanites we can be in no way sure of the diagnosis, nor of the location of the trouble.

What is more confusing than to encounter blood and pus in the urine, in the beginning of an appendiceal inflammation? Yet, we have all, at times, recognized these unusual symptoms accompanying appendicitis, where the organ was situated over the brim of the pelvis in close proximity to the bladder or rested in a retroperitoneal position up on the right ureter. How often have these symptoms been present and a hasty diagnosis of appendicitis been made, operation for removal of a normal appendix performed and the patient in a

*Read before the Section on Surgery of the Southern Medical Association, at Hattiesburg, Miss., November 14-16, 1911.

few days' time pass a calculus, thus exposing a misguided diagnostician and his needless operation. Such a mistake is unlikely, if the stone is situated in the left ureter, except in case of referred pain. Symptoms cannot be wholly relied upon for the diagnosis of ureteral calculus, yet I wish to lay especial stress upon a few symptoms which I regard the most valuable, namely: Rigidity of lumbar and oblique muscles, suddenness in onset of intense, colicky pain radiating to the lumbar and abdominal regions, or to external genitals, tympanites, systemic depression with nausea, or vomiting, hydro-nephrosis and anuria occasionally. When the stone is located in the lower portion of the ureter, frequent painful urination is almost invariably present. A microscopic examination, showing blood cells in connection with these symptoms, adds a strong link to the diagnosis of ureteral stone.

After exhausting symptomatology, physical examination and urinalysis, we seek the aid of cysto-scopy, ureteral catheterization and radiography. Cysto-scopy may aid greatly in showing clear urine being emitted from the healthy side and purulent, or hemorrhagic urine from the diseased side, or the stone may be seen projecting from the ureteral orifice, or be felt within the ureter by a sound. The radiograph is certainly the most exact and reliable means of clinching the diagnosis of stone, and in addition, furnishes the definite location.

However, the composition of a stone may be such as not to cast a shadow, thus an occasional stone may escape detection by a radiograph. On the other hand, a positive shadow is conclusive evidence.

The radiograph, as a rule, will show the calculus located at the upper extremity of the uterer, or at the brim of the pelvis, or at, or near the vesical orifice.

The mode of attack from a surgical standpoint is different in each instance. Stones situated in the ureter above brim of pelvis should be removed by an extra-peritoneal operation through a lumbar incision, ureterotomy and extraction.

When the calculus is situated at the lower end of the ureter, a combined transvesical and extra-peritoneal method is decidedly the best. Max Ballin, of Detroit, has given us the technique of this operation, which should be adopted, and is as follows: Make an incision two inches long and one inch above Poupert's ligament and parallel to it, through skin, fascia and muscle. The peritoneum is pushed inward and separated with gauze. Another incision is made in the median line above the pubis into the bladder. With two fingers in the bladder your assistant raises the lower end of the ureter with the stone into the former incision. Access is then easy. The stone is slipped up ureter a small distance, the ureter opened longitudinally and stone easily removed. The ureter is then explored for other stones, and closed by sutures. If infection is not present, a stone in the lower portion of the ureter may be approached by the intra-peritoneal route, which is usually very satisfactory, provided the opening in the ureter is nicely approximated by suturing and posterior peritoneum closed.

When the stone is located at the ureteral orifice, or near it, a most successful method of removal may be accomplished by use of Bransford Lewis' operative cystoscope. For with some dilation of the orifice, stones of considerable size may be removed with the minimum amount of danger to the patient.

I wish briefly to report three cases: Mr. H., age 48, an ice cream manufacturer, weight about 220 pounds, seized with colicky pain in left lumbar region, radiating all through abdomen, pelvis and to external genitals—tenderness and rigidity over lumbar and oblique muscles, with excessive tympany of abdomen and frequent micturition. Had the right side been affected, appendicitis may have been difficult to exclude. On the second day he passed eight or ten small calculi, with prompt relief of all symptoms. Case 2: Mrs. H. J., age 30, taken with pain similar to first case, though it was

of the right side—marked rigidity over oblique muscles and fancied rigidity of rectus, nausea and rapid pulse. A hasty diagnosis of appendicitis was made and a normal appendix removed. All pain ceased, but on about the sixth day the patient passed a stone the size of an English pea. Case 3 was operative. Charles C., Italian, age 37, farmer, good physical condition. Past history negative beyond the fact of a few attacks of malaria, until September, 1909, when he began having colicky pain in the region of the left kidney, which would shift to the right. After a paroxysm of pain he would pass bloody urine for a few days. These paroxysms occurred weeks and sometimes months apart. In January, 1911, he came to Memphis. His pain was not severe, but was located in both lumbar regions and pelvis. He passed urine frequently, which was highly colored with blood. Upon the character of the symptoms and microscopic examination of his urine showing blood cells, a diagnosis of stone in the urinary tract was made. An accurate radiograph clearly outlined the presence of a stone, the exact position being about one inch from the ureteral orifice in the left ureter. On January 17, 1911, the patient submitted to an operation. Having had no fever and the urine being free from pus, the intra-peritoneal route was chosen. The stone was easily felt at the bottom of the pelvis, about one inch from the bladder, but presented some difficulty of extraction. The ureter was slightly distended with urine, so I was enabled to slip the stone up the ureter a slight distance and opened the posterior peritoneum and ureter over site of the stones. The stone was then removed, ureter sutured, posterior peritoneum closed, anterior abdominal wound was closed without drainage. Patient made an uneventful recovery and was out of bed in two weeks.

I wish to express my thanks to Dr. D. M. Hall, who referred me the case and assisted in the operation. Also am I indebted to Dr. W. S. Lawrence, whose radiograph in this case was invaluable.

DISCUSSION.

Dr. Gessner.—I wish to refer briefly to the method of removing low ureteral calculi, attention to which was called by Dr. Marion Souchon at the last meeting of the Louisiana State Medical Society. Dr. Souchon had a case in which the pain was rather low and referred wholly to the rectum. When he put his finger in the rectum he was able to palpate the calculus. Later he removed it by way of the perineum. It is the first time that was done in this country—the removal of an ureteral calculus by the perineal route.

Dr. Clary (closing)—I certainly appreciate the liberal discussion of the paper. As to the question of drainage, it should always be done, if infection is present, and it is always well, if the operation is done extra-peritoneally to put a small drain there for forty-eight hours.

Another question in reference to suturing the ureter, if the operation is done extra-peritoneally, why, it is not necessary to suture that ureter, but if you go through the peritoneal cavity I would always prefer suturing that ureter and also close the peritoneal opening without drainage. I would not go through the peritoneum if there was evidence of any infection.

SCIENTIFIC FEATURES OF MODERN MEDICINE.

By Frederick S. Lee, Ph.D., Dalton Professor of Physiology, Columbia University. Published by the Columbia University Press, New York.

This unassuming title specifies one of the most readable semi-scientific books that this reviewer has recently seen. Though it contains only 182 pages, yet it thoroughly covers the proposed subject, which it considers under the following heads:

I. A Sketch of the Normal Human Body.
II. The Nature of Disease. Methods of Diagnosing Disease.
III. Methods of Treating Disease.
IV. Bacteria and Protozoa, and Their Relation to Disease.
V. The Treatment and Prevention of Infectious Disease.
VI. The Problem of Cancer, and Other Problems.
VII. Features of Modern Surgery.
VIII. The Role of Experiment in Medicine. The Public and the Medical Profession.

The author likens the human system to "intricate industrial plant, in which various machines work to produce a certain output." He ingeniously uses the simile to illustrate the interdependence of the various parts. He refers to the two mechanisms employed by the body "for the maintenance of harmony and order among its varied parts," namely, the blood and the nervous system. The book leads by easy steps to a comprehension of the theories of Ehrlich and the effort to saturtae the tissues with a poison harmless to them but fatal to parasites. It is a brief course of study that should strengthen our faith in medicines and vanquish the most rabid "therapeutic nihilist." The author has rendered a valuable service to scientific medicine.

MEAT INSPECTION AND TUBERCULOSIS.

By A. D. MELVIN, D.V.S.,

Chief of the Bureau of Animal Industry, U. S. Department of Agriculture.
Washington, D. C.

The Government meat-inspection service has been criticised for passing for food purposes the meat of animals that are slightly affected with localized tuberculosis. It is sometimes charged that diseased meat is passed for food.

"The only foundation for such statements," says Dr. Melvin, Chief of the Bureau of Animal Industry, "is that the healthy and wholesome meat of an animal affected slightly and locally with some disease is passed, after the affected portion has been removed and condemned. The meat or flesh may not be affected in any particular, the disease being usually confined to certain glands or organs. The diseased portion is condemned; only the healthy portion is passed for food.

"This procedure is justified and sustained by the highest scientific authorities not only in the United States but in all countries having an efficient meat inspection. Objections to it usually come from those who have not made a study of comparative pathology and who are not qualified to pass upon the questions involved, and sometimes they come from those who oppose the use of meat at all as food and who wish to discredit it in every possible way."

Dr. Melvin continues:

"The idea of eating the meat of a slightly diseased animal may be repulsive to some, but a little consideration should readily convince a reasonable person that there is no valid reason for condemning and wasting perfectly wholesome meat simply because there happens to be somewhere in the animal a gland or an organ showing a lesion, or a parasitic nodule, or some slight, local condition which does not extend to or affect in any way the remainder of the carcass. The argument that all the meat of an animal affected to even the slightest degree with any disease should be totally and utterly condemned. If carried to the extreme and to its logical end, it would result in the condemnation of practically every animal slaughtered and the abolition of meat as food.

"With the increasing cost of the necessaries of life it becomes more important that wholesome food should not be recklessly and needlessly destroyed, and it is the duty of this department not only to protect the people against unwholesome meat, but to conserve the food supply. The only sensible course in meat inspection is to determine at just what stage a disease or abnormal condition becomes noxious, and where to draw the line between what should be condemned and what should be passed, always giving to the consumer the benefit of any doubt."

As showing that the department does properly safeguard the consumer, Dr. Melvin refers to the report of a commission of eminent scientists outside the Department of Agriculture who were appointed in 1907 to consider and make recommendations with regard to certain features of the meat inspection, and who said on this point:

"The commission would invite attention to a very widespread misconception as to the significance of the word 'diseased' in connection with meat inspection. To the popular mind the idea of eating 'diseased' animals is abhorrent. From the standpoint of meat inspection, however, the term 'diseased' must be used in a sense not entirely in harmony with the popular conception of this word.

"The commission could easily undertake to show that not any single animal used for food in any part of the whole world would, upon microscopic study, be shown to be absolutely free from all infection or lesion if said animal were presented to it for examination. . . . There may be a strictly localized tuberculosis, consisting, for instance, of an isolated tuber-

culous nodule in the lungs, in the liver, or in some other portion of the body. Such nodule would make the particular point infected 'diseased' from the standpoint of meat inspection; in the opinion of some members of the laity such nodule would also make the entire meat of the animal 'diseased' and call for the condemnation of the entire carcass; from the standpoint of meat inspection, the carcass in general would not be 'diseased,' and there would be no justification in condemning it.

"The veterinary inspector, in judging whether a carcass is 'diseased,' must do so upon the general principles of pathology in its relation to the public health, and not upon any preconceived, exaggerated or sentimental idea.

"The commission would suggest that the cooperation of the public is most valuable in aiding in the suppression of frauds in the meat trade, but that it would be well for the public to have confidence in the ability of the veterinary inspectors to pass judgment upon the purely technical side of the questions involved, since such judgment can be of value only when expressed by persons especially trained for this purpose.

"Illustrative of the precautions taken by the Department of Agriculture to safeguard the public health, it is the opinion of the commission that the Bureau of Animal Industry, acting under the existing regulations, would necessarily condemn certain meats which would be allowed, either with or without restrictions, according to circumstances, upon the markets of Germany, France, England and other countries."

Dr. Melvin states that under the Federal inspection it is only when the disease is slight and localized or circumscribed that the unaffected portions of the carcass are passed for food. Whenever the disease is generalized or disseminated throughout the system, or is of such character or extent as to affect the wholesomeness of the meat, the entire carcass is condemned, and the consumer is given the benefit of every doubt. Careful experiments carried out by the Bureau and by scientists elsewhere have shown that the germs of tuberculosis are not carried in the blood circulation and distributed throughout the system until the disease has reached a very advanced stage. It is therefore considered perfectly safe, when the infection is clearly limited to a certain gland or group of glands or an organ, to remove these parts and pass the healthy parts which have not become affected in any way by the disease.

THE DISEASES OF INFANCY AND CHILDHOOD.

By L. Emmett Holt, M.D., Sc.D., LL.D., assisted by John Howland, A.B., M.D. Sixth Edition, Fully Revised, with 240 Illustrations, Including Eight Colored Plates. 1112 octavo pages. Price, $6.00 D. Appleton & Company, New York and London.

Progress in Pediatrics has necessitated this revision. To avoid enlarging the book, much of the older subject-matter has been abridged in order to make room for the new articles on the more recent knowledge. Many of the chapters have been entirely rewritten.

The two fundamental facts which the authors lay down are: First, that the common pathological processes are comparatively few, being chiefly of the gastro-intestinal tract, the lungs, and the brain, but that the variations in clinical types are almost endless; second, that in infants, on account of the susceptibility of the nervous system, functional derangements are often accompanied by very grave symptoms. Upon these two great facts the subject is presented in a way easily grasped and more thoroughly appreciated by the student as well as practitioner. Especially should we call attention to the subject of nutrition and infant feeding, a most important consideration in dealing with children. The disorders of the digestive, respiratory and nervous systems have received special attention in the text. These are only a few of the many points of excellence which the book possesses.

A TRIP TO PARADISE.

SOUTHERN MEDICAL ASSOCIATION'S JOURNEY TO JACKSONVILLE AND FLORIDA.

It may seem fantastic to some to give the above name to the surroundings that will environ the Southern Medical Association when they reach Jacksonville, their appointed rendezvous. Yet the word "Paradise" is merely the Greek term, "paradeisos," slightly changed, and meaning a park.

Thus, those profoundly learned subjects of King James who compiled the Holy Scriptures acknowledged their inability to conceive of any place more entrancingly beautiful than an expanse of land and water, sward and trees, walks and flowers, beautified to the utmost by the art of man.

This month the members of the Southern Medical Association and their guests may enjoy a visit to a place whose natural beauties excel any ever devised by landscape artist and adorned by structures whose magnificence has seldom been surpassed, and whose luxuries should satisfy the desire of the most self-indulgent sybarite—for the association meets in Florida.

Its principal city, Jacksonville, is exerting

A RESIDENCE.

itself to afford us a welcome and entertainment the like of which has not previously been extended to our organization. The simple truth in this connection sounds extravagant.

Jacksonville is situated upon a level plain upon the banks of one of the most romantic rivers in the world. Its dark waters are shaded by tropical trees, from which depend flowering vines and graceful mosses. Its

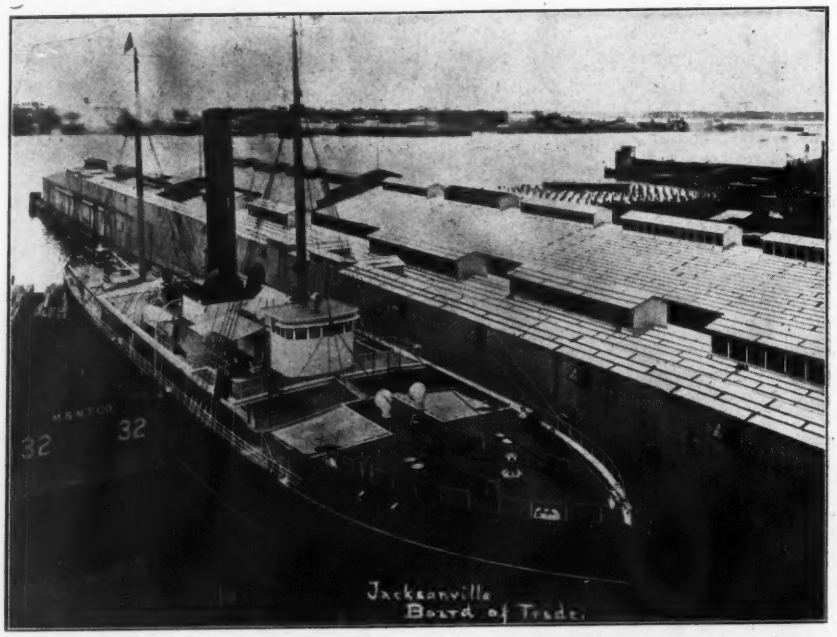
PUBLIC BUILDINGS.

depths are thronged with fishes of many kinds, and sluggish alligators slumber on its sand-

SEMINOLE HOTEL.

bars. On this river our prospective hosts have planned delightful excursions for the enter-

tainment of their guests, and laughter and music will ring through dense forests that only a generation ago echoed the wild warwhoop of the dauntless Seminole. For those who wish to prolong their vacation and extend their trip, an excursion is proposed, after adjournment, to Havana by way of St. Augustine, the oldest city in America, where the finest hotel in the world looks down on crumbling houses whose Huguenot dwellers fled in



THE RIVER.

hopeless terror from the merciless swords of the Spaniards under Hernandez; through Miami, the seeming central city of fairyland; through Tampa, now 400 years young, with its matchless grove of live oak trees, reserved by the government for its naval construction in the days when iron, as material for shipbuilding, was not dreamed of; with its unrivaled harbor, whose tonnage has sprung in the last ten years from 169,844 tons to nearly two million; whose public buildings are the consummation of architectural strength and beauty; whose great hotel is the marvel of hostelries, and whose fruit-laden, flower-crowned environment eclipses the fabled Hesperides; through Key West, the last outstretched arm of Uncle Samuel; Key West, which, standing guard over the entrance to the great gulf is, to the United States, what Gibraltar is to the British Empire.

It will pass by way of Palm Beach and the sea-going railroad that runs over the waters of the gulf for many miles where no land appears to support it, but its foundations are laid in the depths.

They will afford an opportunity to visit Havana, where, under a foreign flag, we can see examples of the perfection to which a tropical region can be developed by unstinted wealth and arbitrary power, where the ill-fated Maine proved to be the sacrifice that freed a nation enslaved, and where every charm of

nature and art combines to please and fascinate. They will show us an ostrich farm where gigantic birds, seven feet in height, lift their plumy wings and dance in true waltz time as gracefully as a girl who raises her embroidered skirt to waltz about her room in exuberance of youthful spirits.

In luxurious automobiles our entertainers will whirl us along the finest roads in the world for such travel, whose long avenues are bordered by gardens of tropical flowers and orchards of golden fruit, and are shaded by colonnades of lofty palms.

But fairer, better, more highly praised than all of these is the spirit of fraternal unity manifested by our special hosts, the doctors of Jacksonville, for although the entire citizenship will receive us with open arms, it is the physicians of Jacksonville who constitute the central, moving spirit of the whole affair.

It is pleasant to know that the city does not lack a single element necessary to make the occasion a grand success. Its hotels offer ample accommodations of the highest class and we are assured their rates will be reasonable. Association headquarters will be at Hotel Seminole, a picture of which is here presented. Ample section rooms and a commodious assembly hall have been provided. A general reception and other social functions will facilitate acquaintance with the Jacksonville people and afford an opportunity to the ladies we may carry with us for the social intercourse they so much enjoy.

It is to be hoped that the numerous attractions may not tempt us to neglect the main object of our coming. Seldom has there been a time when more important medical problems have confronted Southern physicians. Malaria, pellagra, uncinariasis, the threat of plague, all demand attention, and men from widely separated localities and who are thoroughly versed in these matters will be on hand to participate in the discussions. From every point of view the Jacksonville meeting promises to be notable in the history of the Association, one that will be a bright landmark in our memories for many years to come.

BOOK REVIEWS.

A TEXT-BOOK OF PATHOLOGY.

By Francis Delafield, M.D., LL.D., and T. Mitchell Prudden, M.D., LL.D. Ninth Edition, with 13 Full-Page Plates and 687 Illustrations. 1114 pages. Price, $5.50. William Wood & Company, New York.

As outlined by the authors, the aim of this work has been to give the students and practitioners of medicine the knowledge necessary for performing autopsies and the presentation and preparation of tissues for microscopical study; to consider the character of the general processes which underlie the various manifestations of disease; and to set forth the nature of infection and immunity. These have been most thoroughly presented as well as the pathology of acute infectious diseases, tumors and special lesions of different tissues and organs of the body.

The basis of nearly all pathological changes is inflammation and degeneration, and since these phases have been presented in such an intelligible and easily comprehensible manner, the book is especially adapted to the needs of students. The various pathological conditions are very accurately presented in the excellent plates and illustrations. The revision of the chapters on immunity incorporating the latest knowledge pertaining to this rapidly advancing field, marks the text as being strictly in keeping with the present day advanced knowledge.

THE MEDICAL EPITOME SERIES.

Microscopy, Bacteriology and Human Parasitology. By P. E. Archinard, A.M., M.D. Second Edition, Revised and Enlarged. Price, $1.00. Lea & Febiger, Philadelphia.

The introduction and first few chapters deal with the uses of microscope and fundamental principles of bacteriology, the method of making cultures and inoculating animals. The body of the subject of study of the various bacteria is as thorough as is in keeping with a necessarily brief manual of this kind.

BACTERIOLOGY AND PROTOZOOLOGY.

By Herbert Fox, M.D. Lea & Febiger, Philadelphia and New York, Publishers.

In this small volume Dr. Fox presents the subject of elementary Bacteriology and Protozoology in a clear and concise manner that should prove a valuable aid to elementary students of these subjects.

We have seen no small treatise of these subjects that could be better placed in the hands of nurses and laymen whose vocations are allied with medicine. A well indexed glossary in the back of the volume facilitates its perusal by beginners.

Programme of the Southern Medical Association

Sixth Annual Meeting, Jacksonville, Fla., November 12, 13, 14, 1912

OFFICERS OF THE SOUTHERN MEDICAL ASSOCIATION

PRESIDENT.

DR. J. M. JACKSON ..... Miami, Fla.

FIRST VICE-PRESIDENT.

DR. FRANK A. JONES ..... Memphis, Tenn.

SECOND VICE-PRESIDENT.

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DR. JOSEPH Y. PORTER ..... Key West, Fla.
DR. ROBERT WILSON, JR. ..... Charleston, S. C.
DR. MORGAN SMITH ..... Little Rock, Ark.
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DR. W. S. THAYER ..... Baltimore, Md.
DR. L. S. MCMURTRY ..... Louisville, Ky.
DR. GEORGE C. RODGERS ..... W. Va.
DR. EDW. H. CARY ..... Dallas, Tex.

SECRETARY-TREASURER.

DR. SEALE HARRIS ..... Mobile, Ala.

SECTION ON MEDICINE.

DR. C. C. BASS, Chairman ..... New Orleans, La.
DR. G. E. HENSON, Vice-Chair .... Jacksonville, Fla.
DR. H. E. MITCHELL, Secretary .... Birmingham, Ala.

SECTION ON SURGERY.

DR. H. T. INGE, Chairman ..... Mobile, Ala.
DR. W. A. BRYAN, Vice-Chair ..... Nashville, Tenn.
DR. HERMANN GESSNER, Secretary. New Orleans, La.

SECTION ON OPTHALMOLOGY.

DR. M. FEINGOLD, Chairman ..... New Orleans, La.
DR. U. S. BIRD, Vice-Chair ..... Tampa, Fla.
DR. HOMER DUPUY, Secretary ..... New Orleans, La

SECTION ON HYGIENE AND PREVENTIVE MEDICINE.

DR. OSCAR DOWLING, Chairman .... New Orleans, La.
DR. J. Y. PORTER, Vice-Chair ..... Key West, Fla.
DR. A. W. FREEMAN, Secretary ..... Richmond, Va.

COMMITTEE ON ARRANGEMENTS.

DRS. J. D. LOVE, Chairman.
R. H. MCGINNIS. P. C. PERRY. W. S. MANNING.

COMMITTEE ON ENTERTAINMENT, DUVAL COUNTY MEDICAL SOCIETY.

DRS. P. S. PERRY, Chairman.
C. L. JENNINGS. W. W. MACDONELL.

PROGRAM OF ENTERTAINMENTS.

(The official badges for members and guests will be required for admission.)

TUESDAY AT 5:30 P.M., Alumni Reunions. (Announcement of meeting places for the alumni of various colleges will be made at the opening session.)

TUESDAY EVENING AT 9:00 an entertainment will be tendered the members, their families and guests by the Board of Trade in its building, Main and Adams Streets. The entertainment will be opened by an address of welcome by the President of the Board of Trade, response to which will be made by President James M. Jackson in behalf of the Southern Medical Association. Following these addresses there will be a vaudeville program and refreshments.

WEDNESDAY AFTERNOON an automobile ride and reception at the Florida Country Club will be given the ladies.

WEDNESDAY EVENING at 9:30 (after the public session) a banquet will be served to the members.

EXCERPTS FROM THE BY-LAWS.

SEC. 3. Except by special vote, the order of exercises, papers and discussion as set forth in the official programme shall be followed from day to day until it has been completed, and all papers omitted will be recalled in regular order.

SEC. 4. No address or paper before the Association, except the addresses of the President and orator, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than one time on any subject, provided each essayist be allowed ten minutes in which to close the discussion.

SEC. 5. All papers read before the Association shall be the property of the Association for publication in the official Journal. Each paper shall be deposited with the Secretary when read, or within ten days thereafter, and if this is not done it shall not be published.

No papers shall be published except upon recommendation of the Publication Committee, which shall consist of the Secretary-Treasurer as Chairman, with the Chairman and Secretary of each Section as its constituent members.

SCIENTIFIC AND COMMERCIAL EXHIBITS.

In the Auditorium of Hotel Seminole, the scientific and commercial exhibits will be placed. There will be a larger number of exhibitors than at any previous meeting, and capable demonstrators will have charge. Most of these exhibits are the same as at the Atlantic City meeting of the American Medical Association, and will no doubt prove interesting to physicians and surgeons.

OPENING MEETING
SOUTHERN MEDICAL ASSOCIATION.
MOROCCO TEMPLE.

TUESDAY, NOVEMBER 12, 10 A.M.

Call to order by Chairman of Committee on Arrangements, J. D. Love, Jacksonville.
Invocation by Rev. Winder Shields.
Address of welcome for City of Jacksonville, Hon. W. S. Jordan, Mayor.
Address of welcome in behalf of the Duval County Medical Society and the Florida State Medical Association, W. S. Manning.
Response to addresses of welcome in behalf of the Southern Medical Association, Isadore Dyer, New Orleans, La.
Report of Committee on Arrangements, J. D. Love, Chairman.
President's Address, James M. Jackson, Miami, Fla.
Report of Vice-Presidents.
Report of Councilors.
Report of Secretary-Treasurer.
Oration on Medicine, "Clinical Significance of the Nerves Supplying the Viscera and Their Relations to the Glands of Internal Secretion," Lewellys F. Barker, Baltimore, Md.
Oration on Surgery, "Surgery of the Thyroid Gland," Stuart McGuire, Richmond, Va.
Address, "Medical History in the South," Robert C. Wilson, Jr., Charleston, S. C.
Address, H. H. Martin, Savannah, Ga.

PUBLIC MEETING.
AUDITORIUM MOROCCO TEMPLE.

WEDNESDAY, NOVEMBER 13, 8 P.M.

Address, "The Profession of Medicine in Relation to the Public," by Dr. J. A. Witherspoon, President of the American Medical Association, Nashville, Tenn.

Introductory Remarks on Plague, by Surgeon General Rupert Blue, United States Public Health Service, Washington, D. C.

Illustrated Lecture on Bubonic Plague by Assistant Surgeon General, W. C. Rucker, United States Public Health Service, Washington, D. C.

Adjournment.

(Following the public meeting the members are invited to a banquet in the Banquet Hall of the Morocco Temple.)

Election of Offices and Business Meeting, Auditorium Morocco Temple, Thursday, November 14, 11 a.m.

SECTION ON MEDICINE.

(Meets in Auditorium of Morocco Temple, Newnan and Monroe Streets.)

OFFICERS OF SECTION.

Chairman, C. C. Bass, New Orleans, La.
Vice-Chairman, G. E. Henson, Crescent City, Fla.
Secretary, H. E. Mitchell, Birmingham, Ala.
Stenographer, William Whitford, Chicago.

TUESDAY, NOVEMBER 12, 2:00 P.M.

Chairman's Address, "Successful Cultivation of the Malarial Parasites," C. C. Bass, New Orleans, La.
"The Diagnosis of Malaria," Graham E. Henson, Jacksonville, Fla.
"Preliminary Studies of Malaria in Alabama," R. H. Von Ezdorf, Mobile, Ala.
"Some Suggestions for a Campaign Against Malaria," William H. Deaderick, Marianna, Ark.
"Experimental Bearing on the Etiology of Beri-Beri," Creighton Wellman, New Orleans, La.
"Compelling Health," Robert Carroll, Asheville, N. C.
"The Roentgen Diagnosis of Intra-Thoracic Lesions," A. L. Gray, Richmond, Va.
"Complement Fixation in Pellagra," C. H. Lavinder, Savannah, Ga.
"Hydrothorax in Its Relation to Cardio-Renal Lesions," Frank A. Jones, Memphis, Tenn.
"Neurasthenia, Symptomatology and Parthogenesis," James H. Randolph, Jacksonville, Fla.

WEDNESDAY, NOVEMBER 13, 9:00 A.M.

"The Present Status of Our Knowledge Regarding Parasitic Amebae, Charles F. Craig, Capt. U. S. A., Washington, D. C.
"Stereopticon Demonstration of the Different Species of Amebae Reported Pathogenic for Man," C. W. Stiles, Washington, D. C.
"Diagnosis and Treatment of Amebic Dysentery," E. M. Mason, Birmingham, Ala.
"Field Work in Tuberculosis," Mary E. Lapham, Highlands, N. C.
"Phthisiogenesis," E. C. Thrash, Atlanta, Ga.
"The Early Recognition of Tuberculosis Considered Especially with Reference to Its Confusion with Malaria," W. R. Kirk, Hendersonville, N. C.
"The Clinical Value of the Tuberculins in the Diagnosis and Treatment of Tuberculosis," Wallace J. Durel, New Orleans, La.
"Tuberculosis," L. B. Morse, Henderson, N. C.
"Tuberculosis," William LeRoy Dunn, Asheville, N. C.
"Immunity," J. E. Paullin, Atlanta, Ga.
"Serum Treatment in Cerebro-Spinal Meningitis," C C. Green, Houston, Tex.
"Some Important Phases Pertaining to the Care of Infancy," I. W. Faison, Charlotte, N. C.

SYMPOSIUM ON SYPHILIS.

WEDNESDAY, NOVEMBER 13, 2:00 P.M.

"Some Economic Questions Related to Syphilis," Isadore Dyer, New Orleans, La.
"Importance of the Recognition of Syphilis in Circulatory Diseases," J. T. Halsey, New Orleans, La.
"The Effect of Antisyphilitic Remedies on the Wassermann Reaction," William Litterer, Nashville, Tenn.

"Gumma of the Urethra. with Report of Two Cases," W. P. Day and J. L. Kirby-Smith, Jacksonville, Fla.
"The Hygienic Phase of Syphilis," Oscar Dowling, New Orleans, La.
"The Treatment of Syphilis with Arsenical Preparations," Abner Cook, Hot Springs, Ark.
"Salvarsan in the Treatment of Syphilis and Pellagra," E. H. Martin, Hot Springs, Ark.
"Report of 700 Adiministrations of Salvarsan," W. L. Champion, Atlanta, Ga.
"Syphilis of the Eye," Dunbar Roy, Atlanta, Ga.
"Syphilis of the Nose-Throat," H. H. Martin, Savannah, Ga.
"Syphilis of the Ear," N. M. Heggies, Jacksonville, Fla.

THURSDAY, NOVEMBER 14, 9:00 A.M.

"Some Mooted Points on the Feeding of Infants," James Love, Jacksonville, Fla.
"The Influence of Bromides on Pyelonephritis and Cystitis," E. Bates Block, Atlanta, Ga.
"Anaphylaxis," Katherine Collins, Atlanta, Ga.
"Anaphylaxis in Children," J. Boss Snyder, Birmingham, Ala.
"The Importance of the Examination of Urine in Infancy and Early Childhood," W. W. Butterworth, New Orleans, La.
"Pyelitis in Infancy," D. T. McCall, Mobile, Ala.
"Pediatrics," William Weston, Columbia, S. C.

SYMPOSIUM ON PLAGUE.

THURSDAY, NOVEMBER 14, 2 P.M.

"Epidemiology of Plague from the Viewpoint of the Southern States," Howard King, New Orleans, La.
"Pathology of Plague," J. A. Lanford, New Orleans, La.
"Symptomatology and Clinical Diagnosis of Plague," J. B. Guthrie, New Orleans, La.
"The Diagnosis of Plague," R. L. Wilson, Past Ass't. Surgeon, U. S. P. H. & M. H. S., Charleston, S. C.
"Treatment of Plague," I. I. Lemann, New Orleans, La.

THURSDAY, NOVEMBER 14, 7:30 P.M.

"The Diseases of Christopher Columbus and the Part Taken by the Medical Profession in the Discovery of America," Fernandez de Yborro, Tampa, Fla.
"The Renal Functional Test in Medicine," Stewart R. Roberts, Atlanta, Ga.
"State Regulation of Expert Testimony," Cheston King, Atlanta, Ga.
"Aspiration as a Diagnostic Method in Certain Medical Diseases," Alexander G. Brown, Richmond, Va.
"The Relation of Blood Pressure to Certain Functional Nervous Diseases," Hansell Crenshaw, Atlanta, Ga.
"Intra Venous Injections of Strophanthin in Cardiac Insufficiency," Thomas Truelsen, Tampa, Fla.
"Syringo-Myelia—With Report of a Case," Sidney Leach and Alston Maxwell, Tuscaloosa, Ala.
"The Medical Versus the Surgical Aspect of Nephritis," J. E. Dedman, Birmingham, Ala.
"Mycosis Fungoides in Negress," Bernard Wolff, Atlanta, Ga.
"A Therapeutic Comparison, Medicinal and Otherwise, as Between the Caucasian and the Afro-American," George M. Niles, Atlanta, Ga.
"Influence of Physical Defects on Personalities, Moral Obliquities, and Crime," G. H. Benton, Mine Run, Va.

SECTION ON SURGERY.

(Meets in Board of Trade Building, Main and Adams Streets.)

OFFICERS OF SECTION.

Chairman, H. T. Inge, Mobile, Ala.
Vice-Chairman, W. A. Bryan, Nashville, Tenn.
Secretary, Hermann Gessner, New Orleans, La.
Stenographer, Miss Ida Lamb, Charlotte, N. C.

TUESDAY, NOVEMBER 12, 2:00 P.M.

Chairman's Address, H. T. Inge, Mobile, Ala.
"Some Modern Factors of Safety in Surgery," J. Shelton Horsley, Richmond, Va.
"Demonstration of Intra-Thoracic Surgery," Carroll W. Allen, New Orleans, La.
"Ulcers of Stomach and Duodenum," P. C. Perry, Jacksonville, Fla.
"The Discrepancy Between Clinical and Postmortem Findings in Cancer of the Stomach," W. A. Bryan, Nashville, Tenn.
"Clinical Notes on Uterine Hemorrhage," H. A. Royster, Raleigh, N. C.
"Unique Cases of Vicarious Menstruation Following Mutilating Operations," W. R. McKinley, Columbus, Miss.
"Rare Tumors of the Abdominal Wall," Charles Reese, Charleston, S. C.
"A Few Surgical Complications in the Abdomen in Typhoid Fever," Charles M. Remsen, Atlanta, Ga.

TUESDAY, NOVEMBER 12, 8:00 P.M.

Entertainment by Board of Trade.

WEDNESDAY, NOVEMBER 13, 9:00 A.M.

"Intraperitoneal Hemorrhage from the Ovary," H. B. Gessner, New Orleans, La.
"The Surgical Treatment of Infection of the Peritoneum with Especial Reference to the Immediate Sterilization of the Same," J. A. Crisler, Memphis, Tenn.
"Intestinal Suture; an Analysis of Methods," R. C. Turck, Jacksonville, Fla.
"Migratory Tumors," C. O. Kepler, Boston, Mass.
"Treatment of Cancer from a Surgical Standpoint," J. C. Willis, Shreveport, La.
"The Prevention of Abdominal Hernia," W. T. Henderson, Mobile, Ala.
"A New and Original Method for the Treatment of Suppression of Urine," George R. Livermore, Memphis, Tenn.
"The Etiology and Treatment of Cystitis in Women," F. Webb Griffith, Asheville, N. C.
"Observations on Intestinal Obstruction," W. D. Haggard, Nashville, Tenn.
"Drainage Sequent to Certain Surgical Procedures," James N. Ellis, Atlanta, Ga.

WEDNESDAY, NOVEMBER 13, 2:00 P.M.

Symposium on Syphilis with Section on Medicine.

WEDNESDAY, NOVEMBER 13, 8:00 P.M.

Public Meeting followed by banquet in Morocco Temple.

THURSDAY, NOVEMBER 14, 9:00 A.M.

"Operative Treatment of Fractures," Joseph Graham, Durham, N. C.
"The Operative vs. the Non-Operative Treatment of Fractures," G. J. Winthrop, Mobile, Ala.
"Cases Illustrtaing Arthroplastic and Bone Plastic Surgery," Michael Hoke, Atlanta, Ga.
"Bone Transplantation with Report of Case Presenting Some Difficulty," John Smyth, New Orleans, La.
"Congenital Dislocation of the Hip," W. C. Campbell, Memphis, Tenn.
"Tuberculous Joints," L. Sexton, New Orleans, La.
"Climate a Potent Factor in Surgical Tuberculosis," M. O. Shivers, Colorado Springs, Colo.
"The Management of Fractures of the Elbow," Isadore Cohn, New Orleans, La.
"The Use of the Head-piece Plaster Jacket in the Treatment of Tubercular Spines; Illustrated with Lantern Slides," E. Lawrence Scott, Birmingham, Ala.

THURSDAY, NOVEMBER 14, 2:00 P.M.

Symposium on Syphilis with Section on Medicine

THURSDAY, NOVEMBER 14, 8:00 P.M.

"Traumatisms of the Urinary Tract," Howard Williams, Macon, Ga.
"The Operative Treatment of Diseases of the Thyroid Gland," Gaston Torrance, Birmingham, Ala.
"Present Status of the Treatment of Goiter," LeGrand Guerry, Columbia, S. C.
"The Surgical Treatment of Goiter, with Report of Cases," G. E. Gavin, Mobile, Ala.
"The Surgical Importance of the Breast," E. Denegre Martin, New Orleans, La.
"The Value of the Roentgen Rays in Surgical Diagnosis," Amedee Granger, New Orleans, La.
"Recent Surgery," W. R. Jackson, Mobile, Ala.
"Iodine Not Receiving the Proper Recognition," H. A. Elkourie, Birmingham, Ala.
"The Diagnosis and Treatment of Ectopic Gestation," R. J. McFall, Erin, Tenn.
"Cesarean Section," John M. Wilson, Mobile, Ala.
"Uterine Fibroids with Complications," E. C. Davis, Atlanta, Ga.
————, C. J. Miller, New Orleans, La.
————, J. D. Martin, New Orleans, La.
————, W. D. Traviss, Covington, Ga.
————, H. McKee Tucker, Raleigh, S. C.

SECTION ON OPTHALMOLOGY.

(Meets in Board of Trade Building.)

OFFICERS OF SECTION.

Chairman, M. Feingold, New Orleans, La.
Vice-Chairman, U. S. Bird, Tampa, Fla.
Secretary, Homer DuPuy, New Orleans, La.
Stenographer, Miss Lula Gay, Philadelphia.

TUESDAY, NOVEMBER 12, 2:00 P.M.

Chairman's Address, "Thrombo-Phlebitis of Orbits by Ozena Bacillus-Death," M. Feingold, New Orleans, La.
"Gangrenous Tonsil," U. S. Bird, Tampa, Fla.
"Sympathetic Ophthalmia," J. O. McReynolds, Dallas, Texas.
"Tamponade Treatment of Accessory Sinus and Its Effect on Intra-Ocular Inflammation," William S. Manning, Jacksonville, Fla.
"Prevention and Cure of Deafmutism," M. M. Stapler, Macon, Ga.
"Observations on Borthen's Operation for Chronic Glaucoma," Dunbar Roy, Atlanta, Ga.
Chronic Nasal Diphtheria" (prepared as a candidate's thesis to the American L. R. and O. Society), Clifton M. Miller, Richmond, Va.

WEDNESDAY, NOVEMBER 13, 9:00 A.M.

"Chronic Laryngeal Stenosis in Children: Its Treatment by the Author's Special Intubation Tubes," Homer DuPuy, New Orleans, La.
"The Report of Two Unusual Cases of Nasal Polyp, Occuring in Sisters, with the Report of Operation," C. W. Kollock, Charleston, S. C.
"Nail Occluding Third Bronchial Ramus; Upper Bronchoscopy, Recovery," J. W. Jervey, Greenville, S. C.
"Nasal and Post-Nasal Obstructions," C. A. Barber, Jackson, Miss.
"Intra-Nasal Deformities with Their Attendant Sequela," C. B. Wylie, Chattanooga, Tenn.
————, M M. Cullom, Nashville, Tenn.
"Exhibition of Pathological Specimens and Paintings," M. Feingold, New Orleans, La.
————, E. M. Whaley, Columbia, S. C.

WEDNESDAY, NOVEMBER 13, 2:00 P.M.

Symposium on Syphilis with Section on Medicine, Auditorium Morocco Temple.

"Some Economic Questions Related to Syphilis," Isadore Dyer, New Orleans, La.
"Importance of the Recognition of Syphilis in Circulatory Diseases," J. T. Halsey, New Orleans, La.
"The Hygienic Phase of Syphilis," Oscar Dowling, New Orleans, La.
"A Study of Syphilis in Children," L. R. Dupuy, New Orleans, La.
"Gumma of the Urethra, with Report of Two Cases," W. P. Day and J. R. Kirby-Smith, Jacksonville, Fla.
"Syphilis of the Eye," Dunbar Roy, Atlanta, Ga.
"Syphilis of the Nose-Throat," H. H. Martin, Savannah, Ga.
"Syphilis of the Ear," N. M. Heggie, Jacksonville, Fla.
"The Effect of Anti-Syphilitic Remedies on the Wassermann Reaction," William Litterer, Nashville, Tenn.

SECTION ON HYGIENE AND PREVENTIVE MEDICINE.

(Meets in Board of Trade Building, Main and Adams Streets.)

OFFICERS OF SECTION.

Chairman, Oscar Dowling, New Orleans, La.
Vice-Chairman, J. Y. Porter, Key West, Fla.
Secretary, A. W. Freeman, Richmond, Va.
Stenographer, Miss Della J. Purifoy, Mobile, Ala.

SYMPOSIUM ON MALARAIA.

TUESDAY, NOVEMBER 12, 2 P.M.

(With Section on Medicine in Auditorium of Morocco Temple, Newman and Monroe Streets.)

Chairman's Address, "Successful Cultivation of Malarial Plasmodia," C. C. Bass, New Orleans, La.
"The Diagnosis of Malaria," Graham E. Henson, Crescent City, Fla.
"Preliminary Study of Malaria in Alabama," R. H. von Ezdorf, U. S. Public Health Service, Mobile, Ala.
"Some Suggestions for a Campaign Against Malaria," William H. Deaderick, Marianna, Ark.
"Experiments Bearing on the Etiology of Beri-Beri," Creighton Wellman, New Orleans, La.
"Complement Fixation in Pellagra," C. H. Lavender, U. S. Public Health Service, Savannah, Ga.

WEDNESDAY, NOVEMBER 13, 9 A.M.

Chairman's Address, "The Value of Inspections in Promoting Sanitation," Oscar Dowling, President of the Louisiana State Board of Health, New Orleans, La.

SYMPOSIUM ON STATE AND NATIONAL SANITATION.

"The United States Public Health Service as a National Asset," Assistant Surgeon-General Wm. C. Rucker, United States Public Health Service, Washington, D. C.
"Health Work in the States—How to Secure Such Co-Operation Among Them as to Secure Substantial Uniformity," W. H. Sanders, State Health Officer, Montgomery, Ala.
"Some Things the People Should Forget," Joseph Y. Porter, State Health Officer, Key West, Fla.

SYMPOSIUM ON RAILWAY SANITATION.

"The Essentials of Railway Sanitation," E. G. Williams, State Health Commissioner, Richmond, Va.
"The Necessity for Uniformity in State Sanitary Regulations," G. G. Thomas, Chief Surgeon, A. C. L. Railway.
"The Ventilation of Railway Cars," Thomas R. Crowder, Superintendent of Sanitation, The Pullman Company, Chicago, Ill.
Discussion: H. T. Inge, Chief Surgeon, M. & O. Railway, Mobile, Ala.; E. Denegre Martin, Chief Surgeon, Q. & C. Railway, New Orleans, La.

SYMPOSIUM ON SYPHILIS.

WEDNESDAY, NOVEMBER 13, 2:00 P.M.

"Some Economic Questions Related to Syphilis," Isadore Dyer, New Orleans, La.
"Importance of the Recognition of Syphilis in Circulatory Diseases," J. T. Halsey, New Orleans, La.
"The Hygienic Phase of Syphilis," Oscar Dowling, New Orleans, La.
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"Gumma of the Urethra, with Report of Two Cases," W. P. Day and J. R. Kirby-Smith, Jacksonville, Fla.
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"Syphilis of the Ear," N. M. Heggie, Jacksonville, Fla.
"The Effect of Anti-Syphilitic Remedies on the Wassermann Reaction," William Litterer, Nashville, Tenn.
"The Treatment of Syphilis with the Arsenical Preparations," Abner Cook, Hot Springs, Ark.
"Report of 700 Administrations of Salvarsan," W. L. Champion, Atlanta, Ga.

SYMPOSIUM ON TYPHOID.

THURSDAY, NOVEMBER 14, 9:00 A.M.

"Fly-Borne Typhoid Fever and Its Control in Jacksonville, Florida," C. E. Terry, Health Officer, Jacksonville, Fla.
"The Present Status of Knowledge Regarding Community Typhoid Fever in the United States," A. W. Freeman, Assistant Health Commissioner, Richmond, Va.
"The Prevention of Typhoid Fever," J. B. Elliott, Moundville, Ala.
General Discussion of the Control of Typhoid Fever.

Conference of State, County and Municipal Health Officers of all of the Southern States.

SYMPOSIUM ON PLAGUE.

THURSDAY, NOVEMBER 14, 2:00 P.M.

"Epidemiology of Plague from the View-Point of the Southern States," Howard King, New Orleans, La.
"Pathology of Plague," J. A. Lanford, New Orleans, La.
"Symptomatology and Clinical Diagnosis of Plague," J. B. Guthrie, New Orleans, La.
"The Diagnosis of Plague," R. L. Wilson, Past. Asst. Surgeon, U. S. Public Health Service, Charleston, S. C.
"Treatment of Plague," I. I. Lemann, New Orleans, La.

THURSDAY, NOVEMBER 14, 8 P.M.

"Alcohol as a Public Health Problem," B. C. Keister, Roanoke, Va.
"Hygienic Care of Infants," William P. Herbert, Asheville, N. C.
"Medical Inspection of Schools in South Carolina," L. Rosa H. Gantt, Spartanburg, S. C.
"Eugenics," F. R. Harris, Henderson, N. C.
"Schools for the Feeble-Minded—The State's Best Insurance Policy," Ira M. Hardy, Kinston, N. C.

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SECTION ON HYGIENE AND PREVENTIVE MEDICINE:
DR. OSCAR DOWLING, *Chairman...New Orleans, La.*
DR. J. Y. PORTER, *Vice-Chairman....Key West, Fla.*
DR. A. W. FREEMAN, *Secretary*..... *Richmond, Va.*

Next Meeting Jacksonville, Fla., November 12, 13, 14, 1912.

The Necessity for Shorter Papers

The experience of the JOURNAL this year has demonstrated the necessity for abbreviating some of the papers offered for consideration of the Association and for publication in the JOURNAL. We have tried to present every paper read at Hattiesburg in the last twelve issues, but have found it impossible without rejecting many very important articles contributed from other sources, articles so important that to omit them would deprive our readers of valuable information. In order to accommodate the rush of original articles the JOURNAL has gradually sacrificed, one after another, such departments as "Extracts and Comments," "Current Reviews," "Correspondence," etc. The liberal reviews of the leading new books that were once a special feature of the JOURNAL have been condensed and sometimes crowded out entirely.

This is all wrong, for it deprives the busy doctor of that bird's-eye view of medical progress that is almost indispensable.

The Journal of the American Medical Association, after suffering from the same trouble for years, finally found it necessary that the following regulation should be established:

LENGTH OF SECTION PAPERS.

At its annual meeting in February, the board passed a resolution limiting papers read before the sections to four printed pages of The Journal and the discussion by each speaker to 500 words, unless otherwise ordered by the publication committee of the board. The object of these changes, slight in the average case, is to enable the management to publish section papers within a reasonable time and before the matter is stale, and also to give more space to valuable current literature than is now afforded. We believe this will be for the best interst of all concerned. Readers of papers in the sections are limited to twenty minutes and most of them can, without sacrifice of important matter, be abbreviated when necessary, so as to conform to these requirements.

The editors of this JOURNAL believe that some similar action should be taken by the

Association at the ensuing meeting. It would affect but few of the papers and they could be condensed by the editors without detracting from their actual value. Though the literature of some of our longer papers, occupying seventeen or more pages, is excellent, yet it is unfair to other authors whose articles are crowded out to allot them so much space. Few articles should occupy more than five pages, and then only when of unusual importance and by consent of the Publishing Committee. Another consideration is that these long articles entail great expense upon their authors if they order any number of reprints. From every point of view a change is necessary.

The Alumni Reunions

Last year, at Hattiesburg, the reunion of the alumni of the various schools of medicine in the South was such a grand success that it will be repeated this year at Jacksonville, probably with greater numbers and, if possible, increased enthusiasm. Johns Hopkins, University of Virginia and the other schools in that State, Louisville, Vanderbilt, Alabama, Tulane and Texas are all expected to send full delegations.

The experience of last November has only whetted the fraternal appetite for pleasures yet to come. The tie that binds graduates of a standard school to each other is different from any other. Though so many years may have elapsed between the dates of their graduation that they have never before met, yet when they clasp hands at a reunion no consciousness of a new acquaintanceship mars the perfect feeling of fraternity. They are as one.

There is no thought of personal gain or profit, but they meet as members of a family long separated, but whose loyalty never dies. It is hoped and believed that the alumni reunions at Jacksonville may be some of the most enjoyable features of the occasion. Those who desire further information will obtain it from the officers of their respective alumni associations by writing them.

The Mississippi Special—Other States Take Notice!

DEAR DR. HARRIS: We are making our plans to have two solid Pullmans in our Mississippi delegation for the Jacksonville meeting. When all of our men have been heard from we may have a solid train, but we will modestly announce the two sleepers now so that Drs. Jackson and Henson may know that we mean to explore the land of enchantment about which they so eloquently spoke at our Nashville meeting. We shall probably want to park our cars in an orange grove, but will not exact a pipe line for refreshments.

If it is not too late we will ask that you announce through your current issue of the JOURNAL that any member of the profession in Mississippi, whether a member of the Southern Medical Association or not, will be welcomed if he joins our party. Letters of inquiry may be addressed either to Dr. D. W. Jones, Brookhaven; Dr. W. S. Leathers, Jackson, Miss., or to myself.

With best wishes for a record meeting,

I am sincerely,

W. W. CRAWFORD.

The Secret Division of Fees

In the opinion of the JOURNAL the Southern Medical Association should, at the approaching meeting, deal forcefully with the evil known as fee-splitting. The members should come prepared to discuss the subject freely and fully, and to formulate some action that will set the seal of general condemnation on this unholy form of graft. Though it is generally thought that this vice prevails less in the South than in some other parts of the country, yet be it much or little, it is too much, and the Association should express its abhorrence in such terms that they will impress the sensibilities of the most hardened sinner.

At the Atlantic City meeting of the American Medical Association last June strenuous action was taken in this matter. The House of Delegates was requested to "investigate the

secret division of fees and the giving of commissions, and recommend such action by the House of Delegates as will remedy existing evils."

The result was a new "Section 3" to the Code of Ethics reading as follows: "It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or receive a commission.

It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction." But the code proceeds to advise that the patient should be made to realize that the physician is entitled to "a proper fee' for deciding where, for what and to whom to send him for special treatment.

So far as it goes the above is well enough, but it is mild condemnation for an evil reputed to have reached scandalous degrees.

A form of commission that should be specifically frowned upon is that in some places allowed by the druggist to the physician upon all prescriptions he sends in. This is worse than the ownership of the pharmacy by the doctor, a condition universally disapproved. Still another form of indirect compensation has stood so long unrebuked that perhaps no secret is made of it, between doctors, though it is as intrinsically unprofessional as any other.

It is said that some ophthalmologists receive a commission or a division or a rebate on the optical prescriptions they send to the manufacturers to be filled. How often is it the case that the patient, after paying from ten to twenty-five dollars for examination and prescription, pays still farther ten dollars for his glasses, when five is really their net cost, the other five being, without the patient's knowledge, added to the doctor's fee?

There is no excuse save custom for this long tolerated abuse. The ophthalmologist should charge a just and proper fee for his services, and then if the long suffering patient can save five dollars on his bits of glasses, let him have it, for it is his, not ours.

Let us all take hold with a will and with the resistless power of public opinion sweep our professional house clean and pure from any unclean spirits which may have crept into it while we were not watching.

Some Causes of Death

It is well, at times, to consider the statistics of things in which we are deeply interested, and what can be more important to us than knowledge of the principal causes of death in this country, the names of the foes most to be feared? Leaving out the 27 per cent of all deaths resulting from mortality of babies under a year old, we see that the degenerative diseases, including Bright's disease, heart trouble, apoplexy, etc., claim over 350,000 lives annually in this country.

Tuberculosis destroys 150,000 Americans, pneumonia 135,000 and cancer, which is rapidly increasing, slays 75,000. Over 25,000 succumb to typhoid fever, and, in spite of the general opinion to the contrary, the death rate in the United States among people above the age of 40 "has increased steadily for years (about 27 per cent since 1880)," at least so says E. E. Rittenhouse, Conservation Commissioner for the Equitable Life Association, and his figures should be reliable. Suicides, too, are increasing, being about 15,000 annually, an enormous number for voluntary deaths. The 9,000 murders are punished by the execution of 116 murderers, so that it is evident that murder is not an actually safe amusement. Finally over 90,000 Americans are killed annually by violence, accidental or otherwise. This is a ghastly record and when compared with those of other civilized countries should make us hang our heads in shame, for their statistics show no such fearful conditions as these.

'It is estimated that 1,500,000 of our people are constantly suffering from preventable diseases," and the further estimate of lives thus to be needlessly lost during the next ten years, unless more attention is paid to the conserva-

tion of public health, reaches the appalling total of more than *six millions*. Suppose it were 6,000,000 hogs or cattle or even sheep thus imperilled. How all the powers of the government would be placed at the disposal of the Department of Agriculture to avert the catastrophy. But people, just human beings, as they cannot be sold for cash in the grain or meat market, pshaw! Let them look out for themselves.

"No Department of Public Health," says Congress. Plenty of Waps will come in to make up for their loss. So, "dear people, ta, ta."

The Guilty Fly

In this issue of the JOURNAL Dr. Hiram Byrd, Assistant Health Officer of Florida, and Dr. Charles W. Bartlett, Agent of the State Board of Health for Hillsboro County, publish an interesting and important paper concerning an extensive epidemic of typhoid fever that prevailed in Tampa in 1911.

They give a detailed account of their industrious search for the source of infection, which, to a great extent, was found in a market garden crop of lettuce which had been overflowed from a watershed polluted with the dejections of typhoid patients. A point of great interest in the paper is its lucid statement of Faichney's discovery of the manner in which the house fly distributes typhoid infection, namely: that though by walking over typhoid stools and subsequently over food it may sometimes distribute the bacilli, yet it has a far more effective method of doing so. Flies that are bred in typhoid excretions acquire the bacilli while the insects are still in the maggot stage, and retain them until, as fully developed flies, they are able to deposit them in their excretions as long as their filthy lives endure. In view of this fact we shall in future look with increased abhorrence upon a fly speck when we realize that it may contain the seeds of disease and death. The authors conclude, however, that unless a fly has been bred thus in typhoid matter there is very little danger of its communicating the disease, but this does not diminish our antipathy nor lessen the natural desire to destroy them.

In addition to the interesting subject of the paper under consideration it can be cited as an example of clear and concise writing, leaving unanswered as few questions as possible, and though of considerable length, closing when it has said all that is necessary.

Brill's Disease

The inestimable value of patient, persistent, intelligent clinical study has, in recent years, been emphasized by the demonstrations that a mild form of unrecognized typhus fever has prevailed for years in New York City, and probably in several other large cities in this country.

Dr. Nathan Brill, after carefully studying the disease in the metropolis, published his observations and it became known as "Brill's Disease." The investigations were further pursued, notably in Mexico City by Goldberger, his studies being interrupted by his contracting the disease in a severe though not fatal form. His work, and its expansion at the Hygienic Laboratory by Anderson, at Washington, demonstrated certain features of vital importance to the prevention of typhus.

Its identity with the typhus of Mexico was demonstrated by numerous experiments on monkeys, which were found entirely susceptible.

Chief among them are the following:

One attack confers future immunity. The body louse is the principal host and conveyer. The head louse was also found capable of conveying the disease. Blood innoculation by means of these insects seems to be the method of propagation. Though the report says nothing about fleas and bedbugs, yet it would seem probable that the studies still under way may show that it is not impossible that these sanguinary intruders may also be dangerous visiors in the presence of typhus.

The discovery of the constant presence of this disease in our large cities must have an important bearing upon their public health problems. Not every case of typhus, even of Brill's type, may be so mild as not to be dangerous.

Further developments are awaited with interest.

Medical Education in Alabama

The JOURNAL believes the profession at large will be interested to learn of recent developments in medical education in Alabama. Those in authority in the Birmingham Medical College proposed to the Trustees of the University of Alabama that they should adopt the school, auhorizing it to teach only the junior and senior, or clinical years, thus leading them to stand for its diplomas. In return they were to receive no new freshmen or sophomore students, and would transfer to the Trustees of the university by deed all the real and personal property belonging to the Birmingham Medical College. They also offered assurances of valuable increased hospital facilities for clinical teaching over those of past years.

The question of acceptance or rejection of the proposal aroused considerable discussion throughout the State, but at a called meeting of the Trustees on the 17th of September these gentlemen decided, after long and careful consideration, to decline the offer, upon the ground that it would be better to concentrate all efforts upon one united school than to try to maintain two medical departments or parts thereof.

They offered, however, to authorize the Birmingham school to reorganize under their direction and control as a polyclinic, or post-graduate school of medicine, thus giving it the endorsement of the university, and at the same time retaining in the university control of all medical education in Alabama. The JOURNAL hopes that this solution of the question may prove satisfactory, and that in both Mobile and Birmingham advanced medical education may flourish.

The JOURNAL announces, with profound regret, the death of Dr. Louis Kohlheim, of Saltillo, Miss. His death occurred upon the operating table at St. Joseph's Hospital in Memphis on the night of June 24. His age was 44 years. He was a valued contributor to the columns of the JOURNAL. *Requiescat in pace.*

BOOK REVIEWS

PRINCIPLES OF HUMAN PHYSIOLOGY.

By Ernest H. Staeling. J. Jodrell, Professor of Physiology in University College, London. Lea & Febiger, Publishers, Philadelphia and New York.

In this volume on Physiology, Staeling presents the subject of physiology to date with the many discoveries and epoch-making experiments of the last five years.

The chapter on the Muscle is unusually replete, and brings out the results of many recent experiments.

Over two hundred pages are devoted to the nervous system. Of especial interest is his dealing with the evolution of the nervous system, the comparative autonomy of the nervous system.

His chapters on the mechanism of nutrition and the physiology of digestion are unusually well portrayed.

We notice as an exception to the usual works on physiology that he deals briefly but clearly with the subjects of the Lymph and Tissue Fluids, the Skin and the Skin Glands, the Temperature of the Body and its Regulation, the Ductless Glands, and with the Physiology of Reproduction.

This volume of some fourteen hundred pages in which authorities throughout the world are freely quoted, presents the subject of physiology in a modern treatise that should be a valuable acquisition to the library of all students and teachers of physiology.

THE MEDICAL EPITOME SERIES.

Physiology, A Manual for Students and Practitioners. By A. E. Guenther, Ph.D., and Theodore C. Guenther, M.D. Second Edition, Thoroughly Revised. Illustrated. Price, $1.00. Lea & Febiger, Philadelphia and New York.

The Medical Epitome Series needs no endorsement from us, for it is universally known as being one of the best brief presentations of medical knowledge now available. It is sufficient to say that this manual on physiology is in keeping with physiological advancement, being a clear, concise presentation of physiological facts.

RECENT STUDIES OF CARDIO-VASCULAR DISEASES.

Medical Symposium Series Nos. 1 and 2. A Reprint of Articles Published in the Interstate Medical Journal. Paper, 212 and 216 pages. St. Louis: Interstate Medical Journal Co.

These are reprints of valuable articles on "Recent Studies in Syphilis," and "Recent Studies of Cardio-Vascular Diseases." They deserve a wide reading.

DIET AND DIETETICS.

By A. Gautier. Edited and Translated by A. J. Rico Oxley, M.A., M.D. Philadelphia and London, J. B. Lippincott Company and Archibald Constable & Company.

A duodecimo of 512 pages, full of solid information printed in rather small type. Ordinarily the same amount of reading matter would occupy over 1,000 pages. The work is based on the chemical requirements and physiological functions of the body, and it leaves nothing unconsidered. It is illustrated by suitable drawings where necessary. It is a good exposition of the theory and practice of dietetics.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, Pa., and John A. Witherspoon, M.D., Nashville, Tenn. Price, $2.00. J. B. Lippincott Company, Philadelphia and London.

Volume III, twenty-second series of this splendid publication, now on the market, is in every way worthy of its predecessors. The clinics have made their position permanent by sheer merit, until today no medical library is properly equipped unless its shelves are regularly supplied with the successive volumes. The present number contains eight articles on "Diagnosis," five under the head of "Medicine," eight under "Surgery," one on "Ophthalmology," two on "Obstetrics and Gynecology," and two on "Occupational Diseases," all by men whose names are known and respected by physicians everywhere.

The book is unusually rich in illustrations, more than 90 in all. Where all is so praiseworthy, and so little space at the service of the reviewer, individual comment would be valueless. The volume is its own strongest advocate.

Those who examine it will seldom fail to purchase for their own libraries.

STATE REGISTRATION FOR NURSES.

By Louis Croft Boyd, R. N., Graduate Colorado Training School for Nurses. Philadelphia and London, W. B. Saunders Company.

This is a pamphlet of 42 pages and contains a comparative summary of the laws in the United States governing the registration of nurses, with a bibliography on the subject. It is of interest to professional nurses and those who contemplate entering that profession.

HIERONYMUS FRACASTOR'S SYPHILIS.

From the Original Latin. The Philmar Company, St. Louis, Mo.

This is a small, elegant publication on art paper and with uncut leaves. Though derived of practical use, it is of historical values, and worthy of a place on the waiting room table in the most up-to-date office. The binding is of heavy, light-slate canvas, with printing in heavy black, all presenting an unique and attractive appearance.

THERAPEUTICS.

EMMENAGOGUES AND ECBOLICS.

GENTLEMEN: An emmenagogue is an agent that stimulates or tends to increase or restore menstruation. This may be accomplished in a direct or an indirect manner. When treatment is directed to the organs involved in the function it is direct. When, however, we first turn our attention to the general condition of the patient and try to correct its deficiencies, such, for instance, as anemia, or use hot mustard baths to the legs and thighs, that is indirect emmenagogue treatment.

The principal drugs which are used for this purpose and which seem to have a direct effect upon the female organs of reproduction are: ergot, savine, rue, guaisac, hydrastis, caulophyllum and apiol.

Ergota, ergot, is a fungoid substitute growth in the heads of rye. In countries where rye is the principal substance used for bread the presence of this fungus in the flour often causes widespread poisoning, as the scarcity of food compels the inhabitants to consume the contaminated bread. It is sometimes called "spurred rye," from the shape of the sclerotium, or official ergot. It occurs in pieces of a dark, almost black substance, of the size and shape of the spur of a young cockerel. When fresh it can be broken across, though not readily. When it is dry and brittle it is old and useless. The fresh drug has a fishy odor and a disagreeable taste. It contains an oil which may be extracted with benzene and which has been used internally, but its efficacy

is doubtful. Besides the oil several elements have been secured from ergot, some of which are undoubtedly powerful, but each of the many investigators of this really wonderful medicine seems to give us new active principles with new names. The general action of the drug as a whole, however, is fairly well understood. Externally it is inert.

Given in medicinal doses ergot causes contraction of the unstriped muscles. Thus it depresses the heart and slows its action, at the same time contracting the circular muscular fibres of the capillaries and so raising the blood pressure.

Upon the gravid uterus it exerts a similar influence, causing a tendency to expulsion of its contents. This effect, however, is far less energetic in the case of a uterus not near its term of delivery than it is during and immediately after labor at full term. It is a very difficult thing to cause expulsion of a foetus before it is viable. But at full term, or when the child has been born and postpartum hemorrhage is threatened, ergot is a prompt and efficient remedy.

The contractions it causes are not intermittent like those controlled by nature, but are steady and without remission until the effect of the dose subsides. Therefore it is very unsafe to administer it until after the head is born, and it is still better to wait until the child is free from its mother. Even then, if there are no signs of undue hemorrhage, the placenta should be allowed to escape before giving ergot. When labor is completed it is generally considered good practice to insure proper contraction and to guard against relaxation and hemorrhage by giving a drachm (4.0 cc.) of the fluid extract. An infusion of the fresh spurs is the most reliable preparation.

The power of ergot to contract the muscular fibres surrounding capillaries and thus raise blood pressure has been successfully employed to relieve capillary hemorrhage. It has also become customary to rely upon it to control other internal hemorrhages, even though is no valvular obstruction, it is useful, given in moderate doses for a few days and then intermitted for a week. If too long continued the administration of ergot culminates in a form of chronic poisoning resulting, partly, from the state of starvation in which the tissues are kept by the constant contraction of the capillaries. The symptoms vary, sometimes presenting mental disturbances, sometimes gangrenous affections of the extremities. Convulsions usually close the scene. An acute form of poisoning is met with in those who take it in an effort to cause abortion. There is slow pulse, dyspnoea, anesthesia in different regions, vomiting, convulsions and in such cases sometimes abortion and death.

The official preparations are: Extractum ergotae, dose 1 to 10 grains (0.06—0.64 gm.). Fluid extractum ergotae, dose 15 to 60 drops (1.0—4.0 cc.). Vinum ergotae, dose 1 to 3 fluid drachms (4.0—12.0 cc.).

The extract is sometimes called ergotin, and may be used hypodermatically in urgent cases in the same doses as by the mouth. It is merely a concentrated extract. It should be measured into a spoon, liquified with water, heated but not boiled for a few minutes to remove the alcohol, and then administered. Several manufacturing druggists provide hermetically sealed glass tubes, each containing a standard dose of sterilized extract of ergot. It is far better to use such preparations if available for hypodermatic use.

Bartholow recommends the following as an excellent antihemorrhagic combination:

℞. Extr. Ipecac.

Fl. Extr. Digitalis, each two drachms.

Fl. Extr. Ergotae, four drachms.

M. Sig. Dose, 30 drops from one to four hours apart.

LOBELIA.

In a preceding number of the Journal the subject of Emetics was considered in this department, but "lobelia" was omitted by the

so profuse as to debar the theory that the blood came from capillary vessels.

Theoretically this would seem bad practice, for the minute vessels having forced their blood into the larger ones, some of which must furnish the profuse flow of blood, it would seem that the increased pressure and quantity would have an effect contrary to hemostatic. Profuse hemorrhage from the uterus is, however, checked by ergot, because it contracts the whole muscular structure of the hematopoietic viscus, and thus tends to close the mouths of the bleeding vessels, no matter how large.

This power renders ergot useful in subinvolution, uterine polypus and fibroids. In amenorrhoea it is found to act as a stimulant to function, and in menorrhagia and metrorrhagi it was long deemed our surest reliance.

In simple dilatation of the heart, where there printer for lack of space. Though seldom used today it merits a brief account.

Lobelia is an indigenous plant and was at one time much used as emetic, but its violent action and the alarming depression that frequently followed its use have relegated it to the place of an expectorant in some cough mixtures and an antispasmodic in asthma.

In either case the tincture is the preparation used, the dose being from 8 to 15 drops (0.5-1.0 cc.). A teaspoonful has been given in severe paroxysms of asthma with good effects, but there is danger of its emetic action in such doses. The collapse it causes is like that of tobacco sickness. The tincture is with benefit painted over skin surfaces inflamed by poison oak. The drug is now seldom used.

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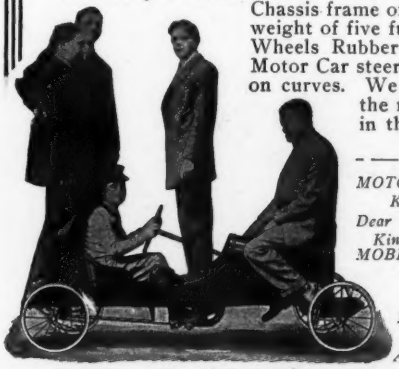

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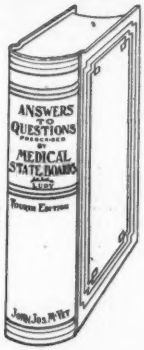

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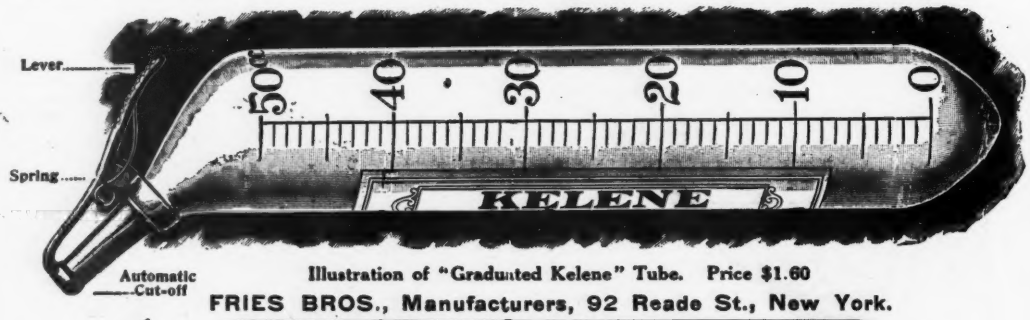

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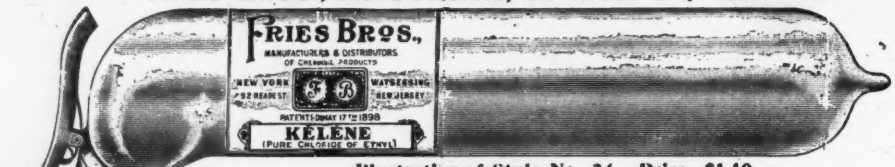

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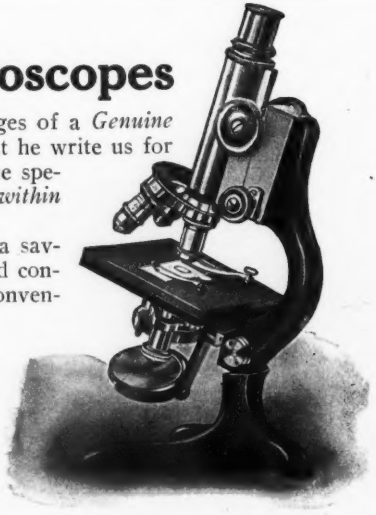

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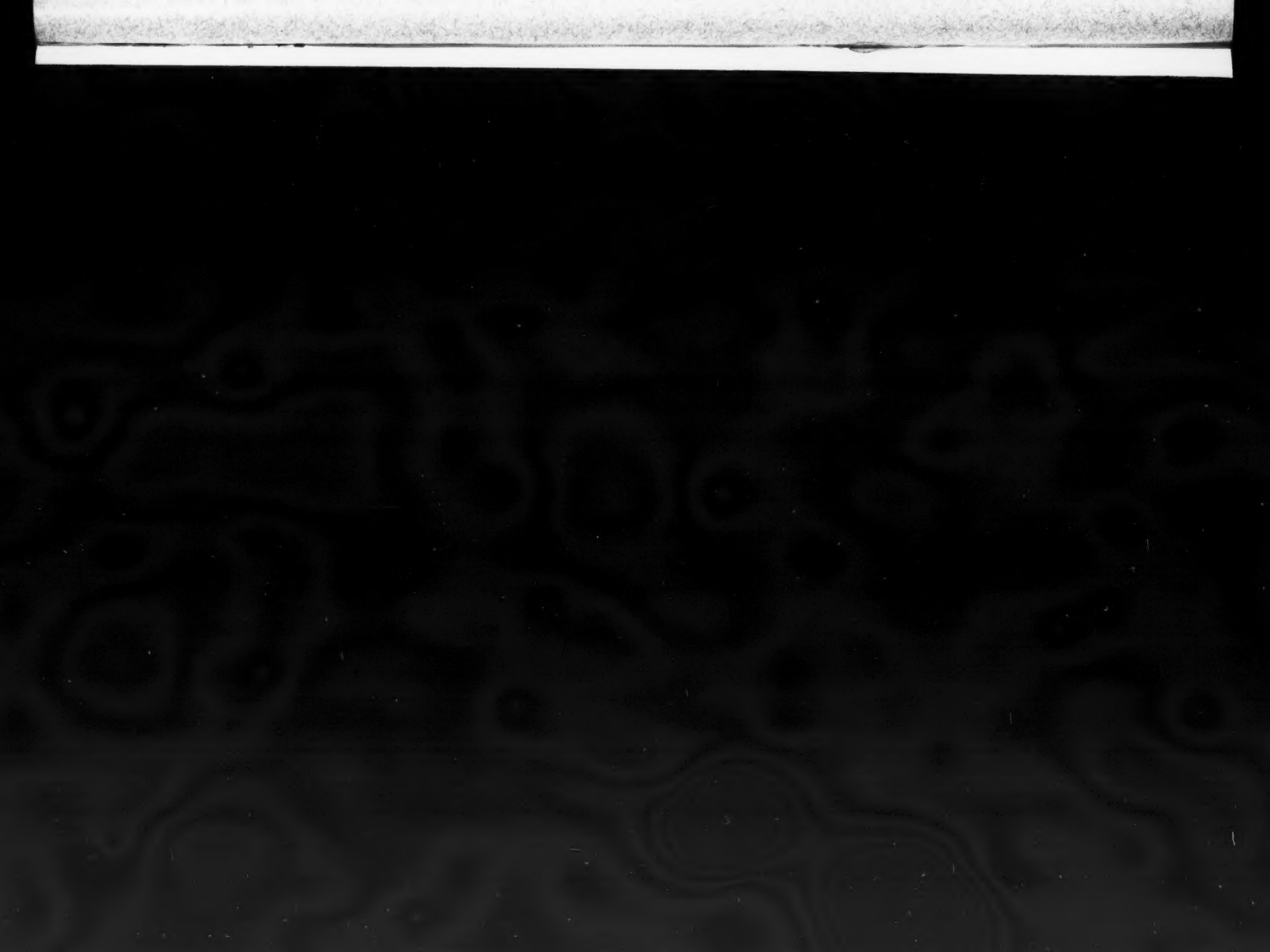

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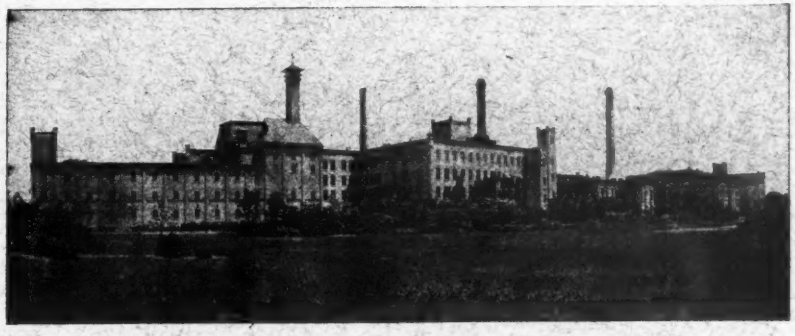

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